

AMERICAN NURSERYMAN

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

MAY 15, 1938



Azalea Arnoldiana



**Will Visit Greenfield Village
Tree Bracing, Old and New
Identifying the Lindens
Plants for Wall Gardens**

AMERICAN NURSERYMAN

Chief Exponent of the Nursery Trade

F. R. KILNER, Editor

Published Semi-monthly by

AMERICAN NURSERYMAN
PUBLISHING CO.

505 S. Dearborn Street,
Chicago, Ill.

Telephone: Wabash 5194

New York Office—67 West 44th Street
N. L. Huebsch Tel., Murray Hill 2-4871

Entered as second-class matter December 14,
1933, at the post office at Chicago, Ill., under
the act of March 3, 1879.

SUBSCRIPTION PRICE. \$1.00 per year; out-
side United States, \$1.50. Single copies, 10c.

ADVERTISING RATES on application. Forms
close on 10th of month for mid-month issue
and on 25th of previous month for first-of-
month issue. If proofs are wanted, copy
should be on hand one week earlier.

EDITORIAL communications on subjects
connected with nurseries, arboriculture or
other phases of commercial horticulture are
welcomed by the editor. Also articles on the
subjects and papers prepared for conventions
of nursery associations.

THE SEASON'S REPORTS.

Excellent sales reported by nurserymen this spring are a striking contrast to the recession or depression experienced currently in most industries.

There are reasons for this seeming paradox. Even with modern scientific aids, nurserymen cannot pile up inventories as manufacturers did a year ago, at least not in so short a time. New building has brought considerable landscape business. Government projects not only have taken a great deal of nursery stock, but have also engendered an interest in planting, particularly larger trees, by persons whose eyes have been opened by what has been done on relief projects. Unquestionably, also, gardening in general becomes of more importance as a recreation in depressed times. And observation over a period of years reveals that commercial horticulture is not subject to the short-time fluctuations of other lines.

Hence the belief of some nurserymen that if general business picks up again in summer or early autumn, they will not have occasion to feel the current depression much, if at all. Rare is the nurseryman who is dissatisfied with sales this spring, and reports from responsible firms show gains of as much as thirty per cent over 1937, itself a good season.

The consequent optimism should not cause us to overlook the possibility that general recovery may not come so fast as wished, and sales in this field may be affected later.

The Mirror of the Trade

More important is the matter of accounts receivable, which are likely to be at a high point. Their accumulation is just as bad as an over-size inventory, and it is the part of wisdom to put attention on collections as soon as the end of the busy planting season permits. If this is done, nurserymen may optimistically face the future with a house well in order.

COMING CONVENTION.

Only two months away is the annual convention of the American Association of Nurserymen, to be held at Detroit, Mich., July 19 to 21. It will be preceded by two days of entertainment and outings. The business sessions are expected to supply a valuable program. So nurserymen will turn from their busy spring season to plans for attendance at the big meeting of the year.

Hence with this issue begin announcements of the attractions at Detroit and the opportunities nurserymen will have on their visit there. Not the least of them is a visit to the famous epitome of American history which Henry Ford has collected at Greenfield Village and the Edison Institute. Those who have visited there are so enthusiastic in their descriptions that there is no doubt the day to be spent on the trip will be exceedingly well worth while. The article on another page describing some of the things to be seen obviously gives only a few glimpses of the celebrated exhibit.

AZALEA ARNOLDIANA.

A new class of hardy azaleas was created by the late Jackson Dawson when he was superintendent of the Arnold Arboretum more than twenty years ago, and the new group was given the name *Arnoldiana*. He crossed *Azalea amœna* with *A. Kaempferi*, and a good many of the seedlings resulting from this hybridization were grown at Boston until they reached the flowering stage. The color of the bloom on the different individuals varied from rosy mauve to nearly red.

From this collection of seedlings, a number with especially attractive flowers, good bushy form and fine

foliage were selected and propagated vegetatively. These were all plants that had proved floriferous and hardy in the climate of Boston. These selections were named, and stock has now been built up sufficiently that at least a half dozen are available commercially. A plant typical of the group is illustrated on the front cover.

Among the named varieties of the *Arnoldiana* azaleas now available are the following: Briarcliff, deep, rich reddish pink, being identical with the color of the rose having the same name; *Cardinalis*, dark cardinal red, new leaves developing with the flowers; *Dexter's Pink*, bright glistening pink, one of the best of them all; *Early Dawn*, lovely soft radiant pink, fading silvery; *Mello-Glo*, cerise pink with a suffusion of gold, and *Mossiana*, rich orchid lavender and the strongest grower of the group.

The *Arnoldiana* azaleas are deciduous in the north, but are evergreen from Maryland southward. In many respects they cannot be distinguished from certain forms of the *Kurume* azaleas, but their advantage of being hardy at Boston and their different origin made it seem advisable to the arboretum authorities to distinguish these azaleas by a definite name, commemorating their place of origin. A Maryland nursery that has been instrumental in introducing the *Arnoldiana* azaleas to the trade and the public finds that the plants respond best when grown in full sunlight. The foliage assumes a pleasing reddish bronze color in autumn.

Nurserymen in sections of the country where it is feasible to plant azaleas and particularly those in the more northerly regions might well try out these new hardy hybrids in the hope of finding something more dependable than the older and more tender sorts to offer their trade.

CANKERWORMS are among the earliest leaf feeders, and in the case of the late-starting trees, such as ash and walnut, they may devour the leaflets before they have more than started out of the bud. Cankerworms feed upon a considerable variety of trees, including elms, and are readily controlled with a poison spray.

AMERICAN NURSERYMAN

[Registered U. S. Patent Office]

The Chief Exponent of the American Nursery Trade

*The Nurseryman's Forte:
To Make America More Beautiful and Fruitful*

VOL. LXVII

MAY 15, 1938

No. 10

Will Visit Greenfield Village

*Famous Exhibit of Historical Buildings Collected by Henry Ford Will
Be Opened to A. A. N. Members on Day Preceding Detroit Convention*

One of the principal attractions of Detroit, Mich., which visitors to the convention of the American Association of Nurserymen, July 18 to 21, should find extremely interesting is Greenfield Village, at Dearborn, a few miles west of Detroit. Many things at Detroit have some connection with Henry Ford, and not the least of his accomplishments which have added fame to the city is this village, which stands on a 200-acre plot of land and represents the work of many years and several million dollars. Here Mr. Ford has collected a varied assortment of buildings which are typical of early American life or which played an important part in the life of some great American.

Most famous, of course, are buildings associated with Thomas A. Edison, a personal friend, whom Mr. Ford believes to have been the greatest American. The village itself is

dedicated to Edison. The Edison Institute, a school on the grounds, makes use of almost all the buildings, which are open to the public every day.

Greenfield Village centers about a green, as did most early American communities. Around the green are located the typical early American buildings—inn, chapel, school, courthouse, town hall and general store. The inn stood originally at Clinton, Mich., and was the first stop of the stagecoach running between Detroit and Chicago. The furnishings are in keeping with its age, rag carpets, haircloth-covered mahogany chairs in the Sunday parlor, etc.

At one end of the green stands the chapel of Mary and Martha. This was named for the mothers of Mr. and Mrs. Henry Ford. A bell cast by Paul Revere, Jr., calls village school children to services every day.

Another building fronting on the

green is the Scotch Settlement school, used at the Scotch settlement near Dearborn about 1874. It is still used as a school and the interior, with the desks covered with carved initials and kerosene lamps on the walls, is exactly as it was many years ago. Henry Ford is said to have attended the school.

The country store dates back to 1854, when it was in use at Waterford, Mich. It contains the assortment of everything from dry goods to comic valentines which was handled by a general store in those days.

The courthouse came from Logan county, Ill. It is the one in which Abraham Lincoln used to plead his cases. Several pieces of furniture from Lincoln's home are here, and in one corner is the chair in which he sat at the theater in Washington, D. C., when he was assassinated. At one end of the room is a fireplace, where, during the celebration



Martha and Mary Chapel and the Clinton Inn, at Greenfield Village, to Be Visited by Nurserymen at Detroit Convention

of the golden anniversary of the invention of the electric light, in 1929, Herbert Hoover lighted a fire which is to be kept burning perpetually.

Typical of the early American village are the post office and the fire department. The post office is a tiny clapboard building built about 1803 at Phoenixville, Conn. The doors and shutters contain hand-forged nails, and the hinges, latches and iron bars on the windows are the original fixtures. The fire department is housed in a shed brought from Newton, N. H. Over the doorway is the name, "Deluge," an unblushing compliment to the engine inside, of which John Greenleaf Whittier once said, "The engine wet all around, but spared the fire."

There is a collection of shops representing various trades practiced in the last century. The Toll House Shoe Shop is one of these. Built about 1828 on the banks of the Merrimac river, beside a covered bridge linking Rocks Village and West Newbury, Mass., it was the station of the toll collector. An early toll collector took up cobbling as a side line, and each successor followed his example.

Under the traditional chestnut tree stands a blacksmith's shop, fully equipped. The fire in the forge is kept going by air forced through the bellows which the smith operates with one hand. An apothecary shop, with drugs, tonics and herbs, used early in the last century, was brought from Phoenixville, Conn., along with the post office.

Since the modern art of photography has developed the arts of the tintype, daguerreotype and ambrotype are almost forgotten, but in one shop in Greenfield Village they are still practiced. An old-time artist makes tintypes of visitors in the studio.

The Sandwich Glass Plant was named for the one at Sandwich, Mass., over a century ago. Glass blowers here fashion many ornamental and useful articles. Some of the fixtures are from the original plant. The home of the first Ford car, at 58 Bagley avenue, Detroit, is also a favorite with tourists.

Several mills stand in the village. The Loranger Gristmill is from Monroe, Mich., and is used for grinding corn. Originally turned by water, the machinery is now oper-

ated by a steam engine. There is a Cape Cod windmill, one of the earliest ever built in America. An old carding mill, where wool was carded, has a weave shed attached, and here hand looms are worked by children from the schools. The Hanks Silk Mill, the first power mill to produce silk in America, was brought from Mansfield, Conn. Water power was used in it originally. The original machinery burned, leaving but a few pieces, but replicas in wood are operated there now.

Many of the homes of famous Americans have been transported to Greenfield Village. Most of them are used by students of the Edison Institute. The Secretary house is the home of the first secretary of the state of New Hampshire, and a fine example of the home of a well-to-do New England family of the eighteenth century.

The Noah Webster house was the home of Mr. Webster while he was compiling his dictionary. Stephen Foster's birthplace, from Lawrenceville, Pa., home of the Foster family until 1935, is a recent addition to the group. In it Foster composed such songs as "Old Black Joe" and "My Old Kentucky Home."

The oldest of the homes is the log cabin in which William Holmes McGuffey, originator of the McGuffey Reader, was born. This book was a standard in child education for a long time. Mr. McGuffey's school is also located in the village.

The office of Luther Burbank, brought from Santa Rosa, Cal., and the study of C. P. Steinmetz, famous electrician, stand near the latest addition to the homes, the Wright house. This was the birthplace of Wilbur and Orville Wright, who flew the first airplane. It was brought to Greenfield Village from Dayton, O., together with the bicycle shop where they built the parts of the first successful plane. In a recent ceremony on the anniversary of the first flight at Kitty Hawk, N. C., the two buildings were dedicated.

While most of the buildings are American, there are three notable examples which are of European origin. These are the Swiss watchmaker's chalet, the Cotswold cottage group and the Bennett jewelry shop. The chalet is reproduced from the type used in the Jura mountains, Switzerland, and contains tools used

in watchmaking. The Cotswold group, so called from the locality in England from which it comes, represents the home of a sheep raiser in the seventeenth century. The jewelry shop belonged to Sir John Bennett, who held watchmaking appointments to English royalty. Over the door of the store are large figures of Gog and Magog, mythical giants supposed to have guarded the gates of London. They were brought from London, while the building is a duplicate.

The Edison Institute Museum, near the gates of Greenfield Village, contains many specialized collections as well as American curios. The front buildings in the group are reproductions of Independence Hall, Congress Hall, and the old city hall of Philadelphia. The main exhibition hall covers almost eight acres, and when completed, the floor will be entirely of teakwood. Here are displays of farm implements, arranged in order of their evolution from prehistoric man's crude plow to the complicated models of modern times. The development of the steam engine is traced by means of models. A comprehensive transportation display includes horse-drawn carriages, both European and American; cars, locomotives and airplanes. Over 6,000 pieces of furniture compose the furniture collection, with examples of Chippendale, Hepplewhite, Sheraton and Duncan Phyfe styles.

The buildings definitely connected with Thomas A. Edison are contained in the Menlo Park group, brought from Menlo Park, N. J., where Edison did his work. They consist of a laboratory, a 2-story building Edison built; an office and library, a carpenter shed, a machine shop and a glasshouse, where glass was blown. Mr. Ford even imported red clay soil from Menlo Park to make the setting realistic. The machine shop was the first central station of incandescent lighting in the world. It houses the early Edison dynamos. The laboratory contains the first phonograph, microphone, telephone transmitter and other experimental machines.

Another Edison building is Mrs. Sarah Jordan's boarding house, the home of several of Edison's workmen. Wires were run from it to the machine shop, and it became

[Concluded on page 10.]

Tree Bracing, Old and New

*Materials and Methods in Tree Repair Developed Rapidly in Recent Years,
Told Ohio Short Course—By A. Robert Thompson, National Park Service*

A tree may require bracing for many reasons. Typical symptoms and factors indicating a need for structural strengthening may be found in (1) split or tight V-shaped crotches, (2) known susceptibility of a species to split or break, (3) decay of parts of a tree, (4) cut or shallow root systems, (5) increased exposure caused by removal of protecting structures and vegetation, (6) prevalence of high winds, sleet storms, etc.

Most of these symptoms and environmental factors are doubtless familiar, but I should like to call attention particularly to the V-crotch and how it differs in structure and strength from the U-crotch. V-crotches are often found in species which have multiple or divided trunks. The major limbs may grow so nearly parallel to each other that the cambium and bark are pinched between, with resulting death of the constricted tissue. The point of contact of the limbs gradually rises as the limbs grow in diameter so that a seam of nonconnecting tissue is gradually developed between them. This results in a weak structural arrangement of the wood elements which breaks down under strain. The U-shaped crotch, on the other hand, builds up an ever-increasing bond between its member limbs so that it rarely requires artificial bracing. It is, of course, good judgment to prevent the formation of V-crotches insofar as this is possible by judicious pruning and training when the trees are small. Good nursery practice and proper handling of transplanted trees will eliminate many V-crotches before they become serious.

Early efforts in tree bracing involved expensive equipment and made-to-order materials, which were difficult and costly to prepare and install.

Methods which are now obsolete included the use of long rigid iron bars placed high in the trees, iron collars, chains and various systems of wires and homemade cables. This work was not only expensive, unsightly and difficult to install, but in many cases the results were actually harmful to the trees.

For example, the highly placed iron

bars tended to resist normal wind sway, instead of allowing some movement, and thus tended to increase the danger of splitting. The crotch collars which were placed tightly around weak or split crotches retarded sap movement to a serious degree, thus weakening and sometimes killing the tree. The cumbersome chains were noisy, expensive, unsightly, difficult to install and relatively weak as compared with modern materials, and the self-made wire cable systems also were obviously weak and inefficient.

Patents.

The progressive development of tree bracing is reflected fairly well in patents which have been issued for special techniques and materials.

The great-grandfather of all tree preservation patents was the one granted to W. H. Livingston in 1860 for a so-called "tree protector," which he devised to support and direct the growth of trees.

For forty-one years inventive genius apparently lay dormant until Asa Hoyt's nimble brain conceived his "tree support." Father Asa was working in the right direction, but I am afraid he must have girdled many branches with his invention.

A revision of Hoyt's idea was worked out by G. E. Brown, and in 1903 he was granted a patent covering a limb support. His device also probably resulted in damage to the limbs he tried to strengthen.

The prolific Daveys were the recipients of patent 890,967, which constituted a definite forward step in tree bracing. This involved the use of lag hooks connected by chains. The principle of this method is, as you know, in general use today.

About this time men became interested in reinforcing trees which had been weakened by decay, and in 1910 Wellington Davey patented an intricate method of internal bracing and followed this shortly with a modification covering the anchoring of sectional cement fillings.

A unique eye nut which was granted a patent in 1921 has been extensively used for vertical bracing of long cavities. This article, known as

an "Amon nut," is adapted to many uses.

The last bracing patent which has come to attention covers a method of applying threaded rod to trees by the use of a tapping tool to form the threads in the wood. The necessity for using such a device is questionable, since an ordinary screw rod is quite capable of tapping out its own thread as it is inserted; in fact, the latter method will probably give the greatest degree of strength to the job.

The objectives of modern tree bracing are fourfold. First, the bracing materials must be inherently strong; second, the installation must be correct from an engineering viewpoint; third, the installation must injure the tree as little as possible, and fourth, the bracing materials must be inconspicuous in place.

Modern Materials.

We are more fortunate today than were our predecessors of fifty or even fifteen years ago in our choice of stock materials. Whereas formerly it was necessary to have the village smithy prepare the cumbersome bands, rods and chains, today we can order from the nearest supply house such standardized materials as galvanized, copper or copper-covered wire and strand; galvanized lag hooks, hook bolts or eye-bolts; galvanized and bronze thimbles; threaded galvanized or duralumin screw rod with hexagonal or eye nuts to fit; round, oval or diamond-shaped washers; special tools and drills to fit pneumatic and electric power units, etc.

These materials may be used in various combinations for such purposes as crown cabling, inter-tree cabling, guying, crotch bracing, cavity bracing and the bracing of intersecting limbs. While bracing problems will always tax the ingenuity of the tree worker, certain principles and practices have been fairly well standardized through laboratory tests and field experience, and I should like to outline a few of these to you.

In order to have an accurate basis upon which to determine the most efficient combinations of cabling ma-

terials, the National Park Service prepared and tested several hundred units of such materials in 1935 through the coöperation of the National Bureau of Standards. The results of these tests have been made available by the writer through bulletins of the National Park Service and papers presented at the National and Western Shade Tree Conferences, of 1936 and 1937, respectively.

The results of the tests may be summarized as follows:

1. Lead holes one-sixteenth inch less in diameter than lags are generally satisfactory for all commercially available lag hooks.
2. Lag hooks were as efficient as the hook bolts and bent eyebolts tested, but not so strong as welded eyebolts.
3. A wrapped eye splice with thimble is as strong as the strand itself, two wraps of each wire being sufficient for maximum strength. Previous tests have shown that wire rope clips are only thirteen to fifteen per cent as efficient as the strand.
4. From the tests it was possible to work out a table of efficient combinations of cabling materials. These are presented in the accompanying table.

Cabling.

For our purposes, we can classify the various cabling systems under four major headings: Direct, triangular, box, and hub and spoke.

The simplest type of cable brace is a single line of cable placed between two limbs arising from a single crotch. Multiples of single direct cables are often needed in irregularly crotched trees having several weak crotches. The weakness of this type of bracing is that little or no lateral support is given the weak limbs.

The triangular system of cabling is undoubtedly the strongest from an engineering viewpoint. The object

of the system is to build up a system of triangles between major weak limbs so that such limbs are supported laterally from two or more directions with the weakest crotches receiving direct support as well.

The box or rotary system is satisfactory for bracing of multiple-trunked trees with sound, though perhaps relatively weak crotches. The box system comes close to nature's own method of support since it provides strength, but at the same time allows quite free crown movement.

The hub and spoke system is seldom used today, but is sometimes of value in bracing trees which have no central leader. This method involves the placing of a strong central ring to which are spliced radiating cables connected to the limbs to be braced.

Cables should be so placed that they will exert maximum leverage. This is accomplished by placing the cable anchors so that they are equidistant and about two-thirds the distance from the crotch to the branch tip. Lags are satisfactory anchors in sound wood, but bolts are safer in limbs with some decay.

Cables should be so placed that they do not rub against the tree or other cables. If it is necessary to place a lag near a crotch, it is safer to place it above or preferably below the crotch—never in the direct line of crotch intersection. Lags should be placed at least several inches or a foot apart, and only one cable should be attached to a lag.

Considerable experience and judgment are needed to be able to judge fairly the size of cable needed in each location. Consideration must be given to the species and general condition of the tree, its exposure to winds and other environmental disturbances, its structural condition and the amount of decay present in the trunk and

limbs, the size of limbs and the amount of foliage load, etc. The ability to judge these factors varies with the individual's experience and judgment, but it is safe to state that usually it is better to overbrace rather than to underbrace.

In practice it has been found that no matter how carefully cable systems are installed, it is good judgment to provide inspections at least every five years so that slack may be taken up in a sagging cable, rust spots touched up, or a rusty section replaced, etc. Growth of the tree may require the installation of more cables to support the additional load.

I should like to add a word here regarding the superior value of copper-covered steel strand as opposed to the common galvanized strand. It is true that the former material is slightly higher in initial cost, but size for size it is considerably stronger; it will not rust, and, therefore, the ultimate cost of the bracing operation is reduced. I believe that your clients will appreciate the use of the more permanent material.

Bolting or Rod Bracing.

The term "bolting or rod bracing" is given to rigid bracing accomplished with the use of prepared lengths of steel or duralumin rod of various diameters which have been threaded with lag or machine thread. The common term for such material is screw rod, and it may be used with or without nuts and washers on the ends of the bolts.

When nuts and washers are not used, the holding power of the screw rod is dependent upon the self-threaded channel made in the wood as the rod is screwed in; hence, the hole must be of smaller diameter than the rod. When nuts and washers are used on the rod ends, it is customary to drill the rod hole the same diameter as the rod or larger. Since it is good judgment to use all of the holding power available, however, sensible standards provide for drilling a smaller size hole than the screw rod in all cases except where it is necessary to draw parts of a tree together.

Screw rod has four major uses in modern tree preservation practice. These major uses may be classified as crotch bolting, lip bolting, holding limbs tightly together or apart, and cavity bracing.

Screw rod is used in modern practice
[Continued on page 16.]

TREE CABLING MATERIAL COMBINATIONS

Safe Loads for Dynamic Stresses
(Based on a safety factor of 4)

Safe load Pounds	Anchor Units		Bent hook or eyebolts (1) (3)	Drop- forged eyebolts (1)	Amon nuts (1)	7-strand galvanized (1)	7-strand copper (2)	Single wire copper- covered steel (2)	Flexible Cable	
	Lag screw hooks (1)	In. di.							3-strand copper- covered steel (2)	7-strand copper- covered steel (2)
100	1/4							1-#12		
200	1/4							1-#12		
300	1/4							1-#10		
500	1/2							1-# 6		
600	1/2							1-# 6		
900	3/8								3-#12	
1000									3-#10	
1200									3-#8	
1400									3-#8	
2200									3-#7	
3000										1-1/2
3300										1-1/2
3700										1-1/2

(1) Based upon N.P.S.—N.B.S. tests.

(2) Based upon manufacturers' tables.

(3) One eastern manufacturer has recently begun to use a harder steel for this purpose which strengthens the bolt considerably over the figures given.

Identifying the Lindens

Sixth in Series of Articles Discusses Characteristics of the Asiatic and European Silver Lindens — By Leon Croizat, of the Arnold Arboretum

In ornamental value and in all-around dependability the European silver lindens, *Tilia tomentosa* and *Tilia petiolaris*, easily take first prize. They are the only ones of the commonly cultivated lindens of Europe which, to my knowledge, stand drought without enduring a perceptible loss of foliage. Their habit, even in the weeping forms, is compact, gracefully pyramidal to columnar. Both in form and color their leaves are pleasing to the eye. In this country they have retained the fragrant blossom that has made famous the linden of Europe. Add to these advantages practical immunity against the inroad of the red spider, a pest seriously affecting *Tilia platyphyllos* and, though to a lesser extent, other species of imported linden. Although it is often said that plants having silvery leaves are untidy and sooty, I have had no reason to be convinced that the silver lindens are unfit for city planting. They deserve large application, on the contrary, in general city use and as street and alley trees. Their leaves are as tidy as those of any other plant, because their hair is too short to collect soot and dust.

Frost cracking whenever the temperature falls below 15 degrees is the liability of the European silver lindens. Of the old and often beautiful specimens cultivated in the parks of the city of New York, few, if any, are free from the marks of the frost's bite. The trees that have suffered are prompted to branch low, the trunk breaking up in several main leaders even below man's height. No damage is otherwise apparent; the wound, as such, heals neatly, and no decay takes place in the wood. It is undoubtedly good practice for the nurseryman who handles these trees to check the young stock once or twice during the growing season, trimming out the suckers that sprout from frost cracks. If they are allowed to develop, these suckers grow into branches that are out of balance with the rest of the crown, and spoil the appearance of the specimen.

The true silver linden, *Tilia tomentosa*, is well known, and correctly

named stock is usually to be obtained from the trade on request. The strain which is commonly propagated in the east has roundish leaves, petioles shorter than half the length of the blade and conspicuously ribbed, hard fruits. This strain, or form, however, is but one of many, some of the plants that have less silvery leaves or longer and more sharply toothed blades being occasionally offered under fancy horticultural names. Taking all the varieties into account, it is next to impossible to draw the line that separates *Tilia tomentosa* from its Asiatic brothers, *Tilia mandshurica* and *Tilia Oliveri*. These last are sometimes cultivated, but, so far as I know them, they are inferior to *Tilia tomentosa*, being coarse and irregular trees. Oliver's linden is probably a southern form of *Tilia mandshurica*, and its hardiness does not seem to have been proved in the north-eastern states. Most trees labeled in cultivation *Tilia Oliveri* are, in fact, *Tilia mandshurica*.

The identification of *Tilia tomentosa* in the growing season is so easy that we may dispense with a detailed account of the differences that separate it from its nearest relatives. The stiff habit, the silvery leaves, the smooth grayish bark and the woody, ribbed fruit are sufficient to effect a determination that is satisfactory for general purposes. None but a specialist can decide what must be included under, or excluded from, *Tilia tomentosa*, if the name is understood in the botanical sense.

In winter *Tilia tomentosa* is identified by the hairy growth of the last, and frequently of the next to last, season. Unlike that of *Tilia platyphyllos*, the hair of *Tilia tomentosa* is star-shaped. The bud's shorter scale (the "apron," as I have called it in a previous article) is scarcely shorter than the bud itself. The tip of the twig is greenish to purplish. Occasionally the glossy linden, *Tilia euchlora*, is confused with *Tilia tomentosa* because the bark of both is gray. The glossy linden, however, is hairless and has a much lighter bark, with rather conspicuous blackish scars.

Tilia petiolaris, the weeping silver linden, differs from *Tilia tomentosa* in habit, leaf and degree of hairiness. Like those of *Tilia tomentosa*, the branches of *Tilia petiolaris* are stiffly erect or barely spreading. The branchlets, however, bend sharply downward not far from their tip, so that the tree "weeps" without ever drooping in the willow's style. The leaf is mostly longer and narrower than that of *Tilia tomentosa*, and its petiole is at least half as long as, or longer than, half the blade in most specimens. The hair is thin and sheds easily.

Tilia petiolaris is seldom seen cultivated, which is surprising. In my opinion this linden has a place among the best trees known to horticulture. At one time the stock was imported directly from Europe, and good quantities of it were sold by the ancient nurseries for which Flushing, L. I., near New York, was famous. Fine specimens thrive in Flushing and in the parks of the city of New York. Most of them are grafted high, apparently upon *Tilia vulgaris*. The practice is unsound because the stock and the graft have an uneven rate of growth, and in the long run are grown freakish specimens with huge scars and thin ends. In grafting lindens it is advisable always to bud low, taking good care to trim the outgrowth of the stock as often as it may be needed. The trimming out of the stock is particularly to be recommended when *Tilia cordata* is used as support. This linden has an amazing vitality and branches easily underground. Given its way, it soon gets out of hand and ends by choking out the graft altogether.

The name of *Tilia Moltkei* is correctly applied to the numerous forms of the hybrid between *Tilia tomentosa* and *Tilia americana* that are often listed as *Tilia argentea*, *Tilia spectabilis*, etc. The range of variation of these forms is amazingly great. Hairless and silvery, large and small leaves with variable petioles are found on the same tree, sometimes on the same branchlet. It is impossible to give hard and fast definitions to satisfy all

the combinations of characters found in trees that legitimately answer the name of *Tilia Moltkei*. The heredity of *Tilia americana* is apparent in the usually scattered and irregular habit of growth and in the almost invariably smooth fruit. *Tilia tomentosa* dominates in the texture and feel of the leaf and in the presence of traces, at least, of hair in most leaves. The characters of the bud as to shape, size and look are intermediate between the characters of bud of the parents. The tip of the twig has in winter pretty much a color of its own, unlike that of either parent, neither greenish nor purplish, but pale brown or yellowish. The bud, the color of the twig, the fruit, the habit—all the characters, in brief, must be interpreted case by case. *Tilia Moltkei* is by far and wide the most common of the hybrids of *tilia* in cultivation, and I may repeat that its forms are legion.

Moltke's linden is a sturdy and reliable tree for general planting, but its irregular habit makes it less valuable than *Tilia tomentosa*. The propagation of standard strains is advisable. Under the existing conditions the name *Tilia Moltkei* does not constitute a guarantee that the tree will look like anything in particular when grown up. Anything may be looked for, from a neat plant with large silvery leaves to a widely open, rather poor tree with small and nearly hairless leaves.

GRIFFING'S ARBORETUMS.

To further landscape sales and service business, the Griffing Nurseries have established an arboretum at each of its branch offices, one in Houston,



Office and Arboretum Entrance of Griffing Nurseries at Houston, Tex.

Tex., and one in Corpus Christi, Tex. Each of these is in a central location of the city and has been developed as one large, well designed garden. As nearly as possible, a complete display of trees and shrubs grown in that section is provided in each location. The plants are all labeled with legible markers giving their common and botanical names. Garden clubs and the general public are invited to visit the arboretum grounds, so as to become better acquainted with plant materials and learn to identify varieties by seeing them in growth.

The plant material in each arboretum is for display purposes only, and not for sale. The Griffing Nurseries, however, maintain an office in each location. The arboretum is consequently also employed to show to clients the varieties, classes, sizes and quality of trees and shrubs which the firm proposes to supply on orders. The customers appreciate the opportunity of seeing what the material actually is

and to visualize the planting represented to them in plan form.

The other nurserymen and the landscape architects of each city and surrounding territory who use materials from the Griffing Nurseries in their practices are likewise invited to bring their clients to the arboretum to inspect the plant materials there. From these various sources, there are, consequently, many visitors to each arboretum, and while it is serving its purpose from a business viewpoint, it is also making it possible for the general gardening public to learn more about trees and shrubs at first hand. Frequently feature writers on gardening for various magazines and newspapers visit these arboretums for plant inspection and identification.

It so happens that neither Houston nor Corpus Christi maintains an arboretum or plant collection in its park system. Naturally the establishment of these arboretums by the Griffing Nurseries is receiving considerable local publicity.

THE selling season may be continued throughout the year, no matter what your opinion as to the limits of the planting season.

FORTY years ago last month Alfred Rehder came to this country from Germany, where for fifteen years previously he had contributed articles on dendrological subjects to periodicals. In his two score years at the Arnold Arboretum he has contributed much to horticultural knowledge and literature, being particularly known for his "Manual of Cultivated Trees and Shrubs Hardy in North America."



Grounds and Shrub Border in Griffing Arboretum at Corpus Christi, Tex.

Plants for Wall Gardens

*Third of a Series of Articles on the Better Subjects for Garden
Feature Now Attracting Public Interest — By C. W. Wood*

The genus *iberis*, a race of crucifers which has segregated itself around the Mediterranean, spreading over northern Africa, southern Europe and southwestern Asia, is not well represented in American gardens except for the popular annual species and two or three perennial kinds like *I. sempervirens* and plants which go under the name of *I. gibraltarica*, but seldom are. I can see little use, either, in dwelling long upon the rarer kinds, for one seldom gets true material from seeds marked *I. Jordani*, *I. Pruitii* and *I. Tenoreana*, and they are usually too tender for winters in latitude 45 degrees north. Before proceeding to the kinds which I have found of value in northern Michigan, I should like to say a few words about *I. gibraltarica*. The plant described by botanists as having flower heads the inner ones of which are white and outer pink seldom shows up in a batch of seedlings, while the plant usually seen in nurseries under this label is more often than not a dirty white. There is a strain in commerce, however, which is quite uniformly, at least as much so as one can expect an *iberis* to be, lilac and is an excellent shade of that color. The species, which comes from Spain and Morocco, is not to be looked upon as a permanent perennial in northern gardens, being mentioned now for the benefit of growers in the more temperate sections.

On the other hand, *I. sempervirens* is quite hardy, making it a most desirable plant for garden decoration, including wall planting, throughout much of the country. Like all candytufts, it is highly variable from seeds and should not be propagated that way except for competitive reasons. If plants of uniform height, color and size of leaf and flower color are desired it is necessary to propagate from cuttings of a selected plant, a matter that is easily accomplished by using pieces of new growth after the flowering period. The species is too well known to need description, but I cannot let the chance pass without saying a few words about the opportunities presented to growers by the variation of seedlings. These variations are mani-

festated throughout the plant, including size, shape and color of leaf and flower, height of plant and season of bloom, and offer a fertile field for selection to cover different needs. A case in point is variety *Snowflake*, which, when grown from cuttings of the true thing, makes sheets of glistening white throughout most of the summer on 9-inch plants. Another example is found in *Little Gem*, the true plant growing four inches high and smothering itself in white during June.

All the foregoing are good wall plants, but the best of the entire lot, according to my viewpoint, is found among the tiny ones, which include *saxatilis*, the plant known as *petraea*, which is a form of *Tenoreana*, *pygmæa* (scarcely distinguishable from *I. saxatilis* in material I have had) and *ventosicola*, a local form from Mount Ventoux, in Provence, which is the smallest of all candytufts of my acquaintance, growing less than an inch high and bearing white flowers for about a month soon after the coming of the first warm days of spring. The only one of these that is at all easy to get is *saxatilis* and it is the only one that will receive our attention at this time.

The last-named is one of the most charming plants in my garden, making a tiny bushlet about two inches high and flowering over a long period, often commencing in October and, if autumn is inclement enough to discourage fall bloom, always it starts its display of white with the first warm days of spring. The plants are so small it takes several of them to make a showing in the wall, a factor which is not to be overlooked when one is figuring total plant sales. Propagation is preferably from cuttings.

Linaria.

Where they are hardy, the creeping toadflaxes, including *Linaria aequitriloba*, *Cymbalaria*, *hepaticæfolia* and *pilosa*, make admirable wall plants. Although we cannot be sure of any of the ones named in this section of the country, I long ago found that they were all safer in a wall than they were in a level spot, and a south wall will carry them through all except our

severest winters. The ones named are all dwarf creepers, varying from the film-like growth of less than an inch in *aequitribloba* and *hepaticæfolia* to the three or four inches of the other two, and all bloom from spring until autumn with tiny snapdragons of violet or lilac according to the kind. Propagation is from seeds.

Lychnis.

Lychnis is a much-abused genus, the modern aesthete professing to abhor the near-magenta color of some of the species. Notwithstanding all that, I count *L. alpina* one of my best wall plants, not only because of its amiable temperament, but also for its nice tufts of foliage and pleasing heads of pink or white flowers on 3-inch to 4-inch stems for a month in early spring. This is an arctic and subarctic plant inhabiting Asia, Europe and North America, but is far more amiable in our climate than most plants from these regions, persisting here under unfavorable conditions and self-sowing freely. Its presence in a wall will mean self-planted seedlings in many pleasing associations. The plant which gardeners know as *L. Lagascae*, but which should perhaps be called *Petrococtis Lagascae*, should also be included here. It makes a tuft of gray blue leaves from which spring 3-inch to 4-inch stems bearing bright rose flowers for three months or more in spring and early summer. It requires a little more moisture than the former; other than that it is just as easily handled. Do not be discouraged if your first attempts yield something else than *Lagascae*, for it is pretty sure to turn up eventually. For some reason, several other *lychnis* species are masquerading under its name, and seeds of the spurious kinds are often supplied instead of the true variety. Both kinds mentioned are easily grown from seeds.

Malvastrum.

Among native plants of real garden value which are so seldom seen as to be practically nonexistent so far as gardens are concerned, *Malvastrum coccineum* is one of the prizes. Its ability to get along on little moisture and not a great deal of fertility, as

well as its habit of extending its carpet of gray foliage far and wide by means of underground stems, makes it an ideal wall plant. And when it is covered with large mallow-like flowers in late spring and early summer, it is one of the brightest spots in the garden. The flower color varies from pink through copper to almost crimson, though one should not look for all these colors in a single batch of seedlings. The most desirable shade I have ever found is a bright salmon pink. All these distinct colors are perpetuated by division of the running rootstocks, but ordinarily the plant is best grown from seeds.

Mathiola.

The perennial stocks are almost a closed book to me, most of the kinds which I have grown having shown themselves not hardy in my climate. But I have seen enough of them to convince me that they hold much promise as wall plants in warmer sections and they are mentioned with the hope that southern growers will search them out to adorn their sunny walls. *Mathiola pedemontana*, with brown and purple flowers on 5-inch stems in June, was hardy here, and *M. valesiaca*, a 4-inch plant with rosy lavender flowers, is said to equal it in hardiness. There is a host of others mentioned in literature and no doubt some of them would prove acceptable to gardeners. Propagation is from seeds.

Micromeria.

No micromeria that I have grown is a showy plant, the flowers being rather inconspicuous, as one would suspect from the generic name, which means "small part," the plants of many of the species being quite small. Like many labiates—they are very close relatives of the thymes—they have aromatic foliage and would be valuable on that account alone, but are also esteemed for their habit of blooming in July and August, when even the smallest flowers are welcome. Try planting a mass of *M. filiformis* or *Piperella* in a wall as near the line of vision as the height of the wall permits if you want to show them off to the best advantage. Both plants resemble tiny shrubs, growing about six inches high, the first with rosy flowers and the other a bright pink from July onward, sometimes carrying a little color into autumn, though they are usually past their prime by

the middle of August. *M. rupestris* is about the best of the hardy species that I have grown, having a long flowering period, often from late July until frosts, and the general appearance of a small heather. It grows up to ten inches in height and bears small white flowers along several inches of the stems. More than sixty kinds are mentioned in literature—*M. Chamissonis*, the yerba buena of California, being one of the better known ones—but few seem to be available and many are too tender for northern Michigan. All that I have had delight in a light, well drained soil and a sheltered sunny situation and may be multiplied from seeds or cuttings.

Ononis.

Ononis offers the wall gardener little in the way of ornaments, but what it does have is good. That is especially true of *O. cenisia*, one of the beauties of the legume family. It throws out a circle of prostrate stems, clothed in small legume leaves, and in June and part of July smothers itself under a carpet of pink sweet peas, deep pink at the edges, fading to almost white at the center. This is one of the most beautiful hardy plants I have ever grown. Reasons for its absence from American lists are not apparent (a careful search reveals not a single source of supply in this country), because it is easily grown in a deep, well drained soil in sun or part shade and is easily grown from seeds. It has never given me any trouble in the garden except during the extremely hot summer of 1936, when all but one of the plants passed out. Its root system consists of one or several long, woody branches, fibrous roots being almost entirely absent, and that makes for difficult transplanting of large specimens. Of similar growth habits, the height of both being not over two inches, is *O. minutissima*, but in this case the flower color is pale yellow, not bright enough to enthrall me, but no doubt of sufficient brilliance to intrigue lovers of subdued colors. All restharrows are best grown from seeds.

THE eastern hemlock and its varieties are the subject of comments by John C. Swartley in the April issue of *Arborist's News*. He describes briefly thirty varieties of *Tsuga canadensis*, several of them unnamed forms originating in various nurseries.

GREENFIELD VILLAGE.

[Concluded from page 4.]

the first house lighted by his incandescent lamp. The oldest of the group is the old Edison homestead, from Vienna, Ont., built by Thomas Edison's grandfather.

A unique curio is the railway depot from Smiths Creek, Mich. It was there that Edison was put off the train on which he worked as a newsboy, after his experiments with chemicals in the baggage car produced unforeseen results. The sole remaining generator of the battery Edison used when he first lighted New York city in 1882 is preserved in a separate shed.

At one side of the village the Suwanee river has been created, where floats an old stern-wheeler named Suwanee after the boat Edison often used during the time he was in Florida. It contains the engines of the original boat by that name, which was sunk.

The first and last thing seen at the village is a floral clock. This formerly was at the entrance to Waterworks park, Detroit, and was made in 1893 by Elbridge Scribner, park superintendent. The dial design and numerals are of sempervivum and alternantheras, held in place by chicken wire. The clock is seven and one-half feet high and ten feet wide. The hands are turned by works originally operated by water power, which may be viewed from inside the mound. When the clock became so inefficient that the city decided to remove it, Mr. Ford brought it to Greenfield Village, where it warms the hearts of visiting Detroiters who recognize it as an old landmark.

AN English writer notes that *Parochetus communis* will cover the ground completely beneath a pine tree where few other things will grow.

NUT tree growers will find much information in the 144 pages composing the report of the proceedings of the twenty-eighth annual meeting of the Northern Nut Growers' Association, held September 12 to 15, 1937. Many papers were contributed on propagation, culture, breeding and disease of the various nut trees grown in the northeastern section of the country.

New Plants for Southwest

*Recent Introductions in Fruits and Ornamentals That Suit
Hot Dry Summers of Section — By C. E. Garee, Noble, Okla.*

So many new varieties are worthy of discussion that I shall confine my remarks to those which have come directly to my attention.

I treat as a new variety any native plant which has only recently come to the notice of nurserymen and gardeners. Such plants are new horticultural varieties just as truly as those produced by hybridizing or discovered as sports from cultivated varieties.

The Blakemore strawberry, in my opinion, is the best early variety for our section, because of the size, quality and appearance of the fruit and especially for its ability to endure the hot dry summers and root enough plants to produce a crop.

The Extra grape was produced some forty or fifty years ago by T. V. Munson and was first known as Big Extra. For a long while it attracted little attention, but in the last decade it has come into its own and has become a leading variety. A rank grower, almost equal to Carman in this respect, it produces heavy crops. In color, flavor, juice content and keeping qualities it rates high. From our experience with it at and near Noble, we do not hesitate to say that if we could have but one grape it would be Extra.

My neighbor, Sam Hodam, has some apricot trees which have produced seven crops in the past eight years. The fruit is not large, but the quality is good. Perhaps they are not widely different from other Russian seedlings, but we have thought it worth while to bud from an early and a late tree showing a difference of about ten days in ripening.

A few years ago the Department of Agriculture furnished us bud wood of about fifteen Persian nectarines newly sent in by foreign scouts or explorers. We budded a few and delivered them to the Stillwater station, retaining one of each. They are the reddest we have ever seen, and we have selected for further propagation No. 43143, an early one, and No. 65979, which is a late one. Some of the varieties are quite susceptible to fungi and bacteria, but the ones selected seem to be more resistant.

About twelve years ago we noticed that one bush in a foundation planting

of *Spiraea Vanhouttei* started later and bloomed later than the others. Next year this performance was repeated. We began propagating from that plant and have developed a strain we call late *Vanhouttei*. Three times in the ten or twelve years *Vanhouttei* has had its blossoms killed or badly damaged by spring frosts, while late *Vanhouttei* came out 100 per cent a week or ten days later.

Introduced several years ago by a Texas nurseryman, hesperaloe, called red yucca, is just now coming into prominent notice. Blooming from May to November on stems three to six feet or more in height, it adds a touch of pink or red to the border or rockery that is equaled by a few plants. It is easy of cultivation and so far has been entirely hardy. No doubt it can be used in protected corners considerably farther north.

Deciduous holly is native in eastern and southern Oklahoma, also in Missouri, Arkansas and Texas. *Ilex decidua* thrives in light or heavy soils in fertile bottoms, near water, or on poor gravelly or hard soils out where thicket and prairie meet and where moisture is often conspicuous for its scarcity, if not its total absence. This indicates its adaptability to any garden soil or almost any location. Its prolific crop of orange, scarlet or near-crimson berries persists until late spring, though the foliage falls at the first sharp frost, making it one of the most admired of all native plants. It is rather difficult of propagation. The seeds germinate slowly, if at all. It does not root readily from cuttings. So the only means of increase up to date has been by suckers or layers from established plants, or by collecting from the wild. As it is dioecious in blooming habit, only the pistillate trees bear berries, and that only when their flowers are properly pollinated from near-by staminate. This may be overcome by alternate planting or by grafting or budding so that both kinds of flowers bloom on the same tree.

Perennial lantana, while not so new, is not widely known and is worthy of further dissemination. Propagated readily by seeds and by division, and with more or less difficulty by cuttings,

it furnishes a wealth of red and yellow or pink and cream flowers, rarely showing any let-up in the heat or drought, blooming from late spring till frost.

Hardly a season passes without the introduction of new plants or of new varieties of old plants. *Buddleia*, *philadelphus*, *forsythia*, *syringa*, *gypsophila*, roses, anything capable of seedling or bud-sport variation is in line for the production of new varieties. The wise nurseryman will be testing many of these. Wary lest he become an easy mark for the exploiter, always observing and profiting by the mistakes, failures and successes of his neighbors, he will gradually add to or improve his plant list.

In no horticultural field has there been greater advance in recent years than in that of ornamental evergreens. In arbor-vitæ alone there have been many new varieties, especially for the territory immediately to the south of us, many of them being a little tender for us in Oklahoma except where planted in protected corners.

In the junipers it has been our good fortune to select and introduce three outstanding varieties of *scopulorum*, or Colorado silver cedar. Native in the cold high altitudes of Colorado and Montana, yet enduring our July and August heat with impunity, they are equaled by few and surpassed by none.

Juniper scopulorum compacta Garee, soft light green foliage, dense, naturally pyramid, responds to shearing. *Juniper scopulorum glauca* Garee, one of the bluest, fills well and, while a natural pyramid, if the leaders are removed will grow into a beautiful spreader.

Juniper scopulorum depressa Garee, a natural spreader, grows nearly as low as *Pfitzer* or *Sabina* and is of a beautiful gray green color. It is quite distinctly different from any previous introduction within our knowledge.

The winter of 1929 and 1930 finished most of the Arizona cypress here. We had one blue specimen that that was uninjured. Young plants propagated from it by budding on biota root stocks have never been

injured by cold. We do not know how far north it would be hardy, but it is proving its value here. Some other nurserymen in the state have similar specimens, and I think they are missing a good opportunity if they do not propagate from them.

Juniper Ashei, known as Ozark white cedar, native in certain mountainous sections of Oklahoma, Arkansas and Missouri, thrives under the poorest conditions. It was introduced by us at the convention of the Southwestern Nurserymen's Association at Marlin, Tex., 1933. Prior to that time we and some others had tried to grow it from collected seedlings, but the results were disappointing both as to the percentage living and the quality of the few that did live. Properly grown from seeds and given the usual nursery handling, it is undoubtedly a valuable variety either for specimens or hedges, and it evidently is not a host for cedar-apple rust.

TREND TO RED PINE.

A recent report by the New York section of the Society of American Foresters shows that slightly more than eighty-two per cent of all plantings in New York state since 1930 are of the three major species—red pine, Norway spruce and white pine. There has been a rapid increase in the use of red pine as a mixture with other species of trees. This is due to the fact that red pine is comparatively free from insect attack and is a fast-growing tree of good commercial value. Mixture of this species with white pine tends to reduce the danger of insect attack upon white pine.

In 1929 and 1930 red pine exceeded other species planted. White pine took the lead in 1931 and Norway spruce in 1932. But each year thereafter red pine was the predominating species. White pine has ranged from ten to twenty-nine per cent of all trees planted. Scotch pine, which in the early days was highly favored, has not been used extensively lately because the trunks of the trees grew crooked. However, Scotch pine seed has recently been obtained, and it is quite possible that Scotch pine will again find extensive use on the more difficult areas.

NEW customers are expensive to get. It pays to spend something to be sure of holding them.

Defeat Farm Forestry

Agricultural Appropriation Bill Passed by Senate Without Funds for Norris-Doxey Act

The agricultural appropriation bill passed the Senate May 9 and did not contain any appropriation whatsoever for carrying out the provisions of the Norris-Doxey act, also called the co-operative farm forestry act.

Owen G. Wood, Albert F. Meehan and Richard P. White appeared for the American Association of Nurserymen before the Senate subcommittee May 3 in opposition to certain amendments to the House bill which Senator Norris had proposed. These amendments called for the reinsertion in the appropriation bill of \$1,200,000, only twenty per cent of which could be spent in the six prairie states. This amendment would have spread the free distribution of trees over the entire country and would have given them entrance into every single state in the Union. Another amendment proposed by Senator Norris would have eliminated the protective clause which the House committee had written into the bill, at the suggestion of nurserymen appearing before it a month ago, preventing the use of this money for the acquiring of land and the establishment of new nurseries.

According to Richard P. White, executive secretary of the American Association of Nurserymen, the Senate committee was favorably impressed, apparently, by the nurserymen's testimony, since the bill as reported to the Senate was similar to the House bill in regard to these items. In other words, it contained no appropriations for farm forestry under the Norris-Doxey act and retained the protective clause which would prevent the use of any money appropriated for the establishment of new nurseries.

This protective clause now applies to an appropriation of \$100,000 (increase of \$29,421) under section 4 of the Clarke-McNary act. These two items were grouped together under the general heading of co-operative farm forestry, and the increase of \$29,421 is designated for the establishment of Clarke-McNary nurseries in the states of Illinois and Missouri. The protective clause will prevent the use of this money, therefore, for the acquiring of lands or the establishment of nurseries in these two states. Nothing, however,

prevents the states from acquiring land and establishing the nurseries on state funds. Federal funds can then be used for the running of the nurseries, as Clarke-McNary funds are all matched by state appropriations.

The appropriation bill also carried three other items in favor of which the A. A. N. representatives had taken a stand. These items were restored in the Senate in response to the objections to cuts which had been given to various bureaus. One was a cut of \$26,000 below the budget figure, to eliminate vehicular inspection around the margins of the Japanese beetle area. It was deemed advisable that this vehicular inspection be continued in full force, as it offers another means of preventing spread of the insect. The item of \$26,000 was restored in the Senate bill.

The House reduced by \$24,400 the budget estimate for an item for forest insect investigation, with the statement that this cut was specifically to eliminate investigations to determine the relations of insects to the Dutch elm disease. Progress made in the eradication of this disease about New York city was extremely satisfying during 1937, and since the entire eradication procedure is dependent upon the relationship of insects to the spread of the fungus, it seemed especially unwise to eliminate these basic investigations, particularly at a time when progress is so gratifying. This item was restored in the Senate.

The House reduced by \$100,000 appropriations for plant exploration and introduction. The budget estimate was \$200,933. The House bill carried \$100,933. Nurserymen requested of the Senate committee the restoration of this item to the full budget estimate. The result was that the Senate not only restored the \$100,000 previously cut, but went \$100,000 above the budget estimate, so that the Senate bill carries \$300,000 for this work.

These last three items are subject to action in the conference on the House and Senate bills, but the first item is not a subject for the conferees to consider because both the Senate and the House concurred in the nurserymen's contention that no money

should be appropriated for carrying out the provisions of the Norris-Doxey act.

INDIANA OFFICERS.

Alex Tuschinsky.

Alex Tuschinsky, president of the Indiana Nurserymen's Association, is head of the Hillsdale Landscape Co., Indianapolis, Ind. He conducts a landscape contracting and nursery business. His nurseries consist of ninety-two acres, five miles north-east of Indianapolis.

Mr. Tuschinsky was born in Germany, July 10, 1886. He began his training in the nursery and landscape profession at 14. He spent several years in Berlin and Hamburg, Germany, working on several large landscape projects.

He came to Indianapolis in 1909 and engaged in the landscape business there in 1913, starting his nurseries in 1918. He has applied his landscape training to the nurseries and has developed one of Indiana's model sales grounds.

He served last year as vice-president of the Indiana Nurserymen's Association, being succeeded in that office by Homer L. Wiegand. Devol Ernst, Muncie, is treasurer.

Kenneth Randel.

Kenneth Randel, secretary of the Indiana Nurserymen's Association, was born at Ladoga, Ind., a small town in Montgomery county, May 22, 1912, and graduated from the Ladoga high school with the class of 1931. Since that year he has been steadily employed by the A. Wiegand's Sons Co., one of the oldest

firms in Indianapolis. Since the firm does both a florists' and a nursery business, he has obtained experience in both lines of work from the bottom up. His major interest is in the nursery and landscape department. He is now landscape architect and salesman for the company.

He is a member of the Indianapolis Horticulture Club. He was married to Vera Dixon, Indianapolis, November 25, 1936.

LYTHRUM MORDEN PINK.

Morden Pink is the name accorded an attractive lythrum developed at the Dominion experimental station at Morden, Manitoba, as a bud sport from the rose-purple colored *Lythrum virgatum*. W. R. Leslie, superintendent, described it thus in a recent station newsletter: "The new sort is featured by its showy color, its generosity of bloom and its ability to withstand periods of dry hot summer weather. The color is rich, live, clear rose-pink, and the row in the study border of herbaceous perennials is one of the specially esteemed features during the latter half of summer. Morden pink lythrum is one of the most worthy subjects for the mixed herbaceous borders. It is distinctly superior to the type from which it sprang as an offshoot.

"This flower is somewhat suggestive of pink plume spiraea, or *Spiraea venusta*, in its garden effect. Both are cherished for their arresting lively clear pink flower display. However, the latter demands moist conditions and during the dry years dispensed its rare charm only in partly shaded moist locations. The former has never failed to distinguish its setting with airy gay beauty, even in the harshest seasons.

"*Lythrum* is a Greek term, referring to blood, some of the species having stytic properties. One common name is loosestrife. Standardized Plant Names allots the botanic name *lythrum* as the common name as well. The plant has four-angled stems and willow-like leaves and attains a height of two to four feet. Although they have done well in ordinary soil during dry years, in nature they are mostly found in low grounds and may be seen even in wet swamps. Plantsmen recommend moist locations for their residence, but, happily, the Morden Pink appears to tolerate a variety of soils and conditions."

NEW JERSEY ADVERTISING.

Sunday garden pages of the New York Times, New York Herald Tribune, Philadelphia Inquirer, Asbury Park Press, Newark Call and Ledger, New Brunswick Times and Trenton Times this month are carrying advertisements of nursery stock grown in New Jersey. These advertisements are paid for out of the appropriation of \$150,000 passed by the New Jersey legislature for advertising the "garden state" under the guidance of the New Jersey Council. Of the appropriation, \$30,000 was allotted to the state department of agriculture, and various groups benefited, nurserymen in the sum of \$3,000.

Inasmuch as the New Jersey Nurserymen's Association has cooperated actively with the state department of agriculture in the past, it was only natural that joint action should be taken in the present matter. The secretary of agriculture, Willard H. Allen, called a meeting of representative nurserymen in March, and fifteen members spent an evening discussing the possibilities of a state advertising program.

The result has been a series of advertisements in the Sunday papers, scheduled to run from April 24 through the month of May, emphasizing the increased value which proper landscaping gives to a home and urging the use of evergreens and shrubs grown in New Jersey. Part of the advertisement is a keyed coupon addressed to the New Jersey Council, Trenton, N. J., which newspaper readers may use to obtain a free booklet on the selection, planting and care of evergreens.



Alex Tuschinsky.



Kenneth Randel.

From Scientific Sources

*Facts of Practical Value to Nurserymen Found in Recent Publications
on Research Work Being Done at Various Experimental Institutions*

STRAWBERRY DISEASE.

Laboratory and field studies show that the phytophthora causing the red-stele root disease of strawberries is favored by cool temperatures and wet soils, according to the account of J. B. Demaree and H. F. Bain in the April 15 number of the Plant Disease Reporter, which is issued by the division of mycology and disease survey of the bureau of plant industry of the United States Department of Agriculture. The temperature most suitable for sporangial production ranges between 55 and 70 degrees Fahrenheit. Vegetative growth ceases at about 80 degrees, and 5 degrees higher becomes lethal. Free soil water is necessary for the spread of the zoospores. Sporangia are readily produced when newly infected fibrous roots are submerged in cool water for a period of twelve hours or more, and have been found occurring naturally on roots of plants grown in well watered pots. Therefore, poorly drained soil that holds water for several hours after a rain is essential for the rapid increase of the fungus. At present the indications are that the fungus may persist and spread slightly in a well drained soil, but will not develop in an intensive form.

The fungus remains dormant, presumably in the zoospore stage, during the summer months, and new infections start during the autumn and can continue throughout a mild winter. Weather conditions during the past fall and winter were perhaps almost ideal for the development and spread of the fungus in Maryland, Virginia, Delaware, New Jersey, West Virginia and Pennsylvania. Rainfall was excessive in October, autumn temperatures were below normal, and the winter was generally mild.

Inspections made in Maryland and Virginia this spring indicate that the disease will be more destructive than usual. Some fields located on low ground in Maryland were so badly diseased that stunting and dying of plants were evident during the last week in March. The disease in a few entire fields and in the lowest parts of other fields was so far advanced that crop failure is certain.

This phytophthora trouble potentially ranks among the most destructive of all strawberry diseases wherever temperatures and soil conditions are favorable for its development. The fungus can easily be spread by infected plants, and undoubtedly is being introduced to uninfested fields in this manner.

The most obvious symptoms of the red-stele diseases are gradual stunting of plants and wilting and dying of the older leaves; the newer leaves of badly infected plants are usually small, on short petioles, and bluish. The root system will show a deficiency of fibrous roots; the fleshy roots may be entirely devoid of rootlets and otherwise healthy in appearance, except that the stele will show red when examined. In the more advanced stages of the disease the fleshy roots die gradually from the tips.

CHERRY LEAF SPOT.

The leaf spot caused by *Coccomyces hiemalis* is the most destructive disease of the sour cherry, *Prunus cerasus*, in Wisconsin, its economic control being a primary requisite for successful cherry culture in that state.

Since 1914 studies have been made at the agricultural experiment station at the University of Wisconsin to correlate the epidemiology and control of cherry leaf spot in relation to major factors of variability over a sufficient number of years to encounter a wide range of conditions. The work has been directed along two

major lines, field studies of the development and control of the disease in relation to the play of the natural environment, and laboratory and greenhouse studies of the disease and its prevention under partly controlled conditions. The results of these studies are contained in a bulletin of 120 pages entitled "The Epidemiology and Control of Cherry Leaf Spot," by G. W. Keitt, E. C. Blodgett, E. E. Wilson and R. O. Magie, published November, 1937, by the University of Wisconsin as research bulletin 132.

In recommendations for control, clean culture is suggested as a sanitary procedure to supplement the spraying program, where it is feasible. Of the spray and dust materials studied, Bordeaux mixture seemed distinctly the best for general use under Wisconsin conditions, and lime-sulphur next best. Those interested in more detailed exposition of the control measures will find the bulletin quite thorough on that point.

VIBURNUM GERMINATION.

"Germination and Seedling Production of Species of *Viburnum*," by Johanna Giersbach, in a recent issue of Contributions from Boyce Thompson Institute, indicates that seeds of viburnums, like those of many other genera, require a period of warm temperature, followed by a period of cold temperature, before germination and seedling production

Bay State Nurseries

INCORPORATED

NORTH ABINGTON and FRAMINGHAM, MASS.

OFFER

A GENERAL LINE OF NURSERY STOCK AT COMPETITIVE WHOLESALE PRICES. SPECIALIZING IN TAXUS, AZALEAS, RHODODENDRONS AND ODD ITEMS YOU ARE UNABLE TO LOCATE ELSEWHERE.

ASK FOR OUR PRICE LIST

will occur. Southern species, such as *Viburnum nudum* and *Viburnum scaberrimum*, do not require the storage period at the cold temperature. The effective length of the warm and cold storage periods varies with the different species. From the data presented the approximate effective length of the warm period is as follows: *Viburnum nudum* and *scaberrimum*, one month; *Viburnum Opulus*, two months; *Viburnum dilatatum* and *Lentago*, three months; *Viburnum dentatum*, four months, and *Viburnum acerifolium*, *prunifolium* and *rufidulum*, four to five months. Storage is best in moist granulated peat. Treating the seeds with sulphuric acid seemed to have no effect on germination. Two to three months' storage at the cold temperature was required. The longest cold storage period was required for *Viburnum acerifolium*, followed by *dentatum*, *dilatatum*, *Lentago*, *pubescens*, *rufidulum*, *Opulus* and *prunifolium*. The commercial method of handling viburnum seeds advocated is sowing outdoors in spring or early summer. Seedlings can be expected the following spring.

INCREASE CHERRY YIELD.

Cherry trees must be kept in a high state of vigor to be profitable, and this can best be attained by a combination of severe pruning and applications of nitrogenous fertilizers to restore the vigor and increase the yield of sour cherry trees over a period of years, declares Dr. H. B. Tukey, of the New York state experiment station, at Geneva, in citing the results of extensive tests of this procedure in bearing Early Richmond, Montmorency and English Morello orchards.

The average moderately vigorous sour cherry orchard will generally respond to applications of nitrogenous fertilizers applied early in the spring as growth starts. Pruning alone is not effective, but when it is coupled with fertilizer applications the results have been good.

Because of the growing habits of the sour cherry, little or no increase in yield will be obtained the first season after severe pruning, while the second season will show a small increase, and the third season a marked increase in yield. Once this system of management is established, however, the orchard may be maintained on a

"PAINESVILLE NURSERIES"



This is our 84th consecutive year.

We grow things
in QUANTITY;
of well proved
QUALITY.

See Our Catalogues

Our prices are right.

Fruit Trees
Deciduous Trees
Evergreen Trees
Shrubs
Vines
Evergreen Shrubs
Roses
Small Fruits
Hardy Perennials
Greenhouse and
Bedding Plants
Bulbs and Tubers
SEEDS

Complete Nursery Supply

The Storrs & Harrison Company
PAINESVILLE, OHIO

Taxus Cuspidata Capitata

— UPRIGHT YEW —

The hardiest and best of the evergreens. Thrives in all locations. Requires little attention. Virtually free from pests. Shears to any desired effect. Transplants easily. Ranks as tops for hedging purposes.

From the largest block of Upright Yews in America, we supply well grown, well furnished stock, each free with an individual leader.

PRICES AND TERMS:

Size	Each	10	100
2½ to 3 ft.	\$ 2.50	\$ 22.50	\$200.00
3 to 3½ ft.	3.00	27.50	250.00
3½ to 4 ft.	4.50	40.00
4 to 4½ ft.	5.50	50.00
4½ to 5 ft.	7.00	65.00
5 to 6 ft.	12.00	100.00
6 to 7 ft.	17.50	150.00

5 at 10 rate—25 at 100 rate.

Larger sizes and quantity lots priced on request.
Packing and boxing charges additional. All prices f.o.b., Rutherford, New Jersey.
Order a carload. Save packing and reduce freight charges.

Visit our nurseries and greenhouses.

BOBBINK & ATKINS **RUTHERFORD**
NEW JERSEY

Catalogues or quotations on other needs as requested.

continuously higher plane of production than formerly. By severe pruning, Dr. Tukey explains that he means pruning to outside lateral branches to reduce the height of tall trees, as well as thinning out unproductive wood and cutting back to outside lateral growths. This pruning, which should be done before growth starts, will result in vigorous wood with an abundance of leaf buds which produce fruiting spurs the next year which, in turn, bear fruit the third year.

TREE BRACING.

[Continued from page 6.]

tice where it is necessary to provide a rigid crotch brace. Split crotches usually require such provision, and weak but unsplit crotches are often benefited by rigid bracing as a supplement to cable bracing.

It is sometimes sufficient in small trees to drill one hole through or just above the crotch and insert a single piece of screw rod so that the two sections of the crotch are securely fastened together. The problem usually is not so simple, however, and large split or weak crotches may require two or more lengths of screw rod in order to achieve necessary rigidity.

When two rods are used in bracing a single crotch, they are usually placed parallel to each other and side by side, rarely one over the other. Such rods are known among arborists as "parallels" by reason of their position. If their purpose is simply to maintain the relative position of the two limbs being braced, the holes are drilled one-sixteenth inch less in diameter than the rod so that the threads may cut a similarly threaded channel in the wood as the rods are screwed in. If the rods have a holding length of at least six inches in sound wood at each end, the self-threaded channel will provide sufficient holding power. But, if the wood is even slightly rotten or is apt to become so in the future, or if the wood thread is less than six inches at either end, it is necessary to use nuts and washers on each end of each rod to assure sufficient strength.

Parallel rods should rarely be placed closer than five inches to each other. A rule of thumb which may be used in deciding how to place parallels is based upon the diameter of the limbs of the crotch at the point of insertion. In using this rule, parallels are separated

a distance which is equal to one-third to one-half of the diameter of the limbs. Thus, parallels used to brace two 15-inch limbs should be placed five inches to seven and one-half inches apart. Parallels should always be placed above, not through, a crotch cavity filling.

Often it is necessary to increase the safety factor of braced crotches over that provided by parallel rods. The rigidity should often be increased also. When this additional safety factor is required, it is supplied by the installation of an additional length of rod from one foot to three feet above the parallels in a position which is parallel to and approximately equidistant from each rod. The same requirements for hole diameter apply to safety bolts as have been discussed for parallels except that nuts and washers should always be used on safety bolts as an additional factor of safety. A tightly fitting pipe covering placed over the exposed portion of rods will stiffen and protect them from weathering.

The term "lip bolts" may be applied to rods which are used to sew up a long split in a limb or trunk. Lip bolts are often used in cavity bracing, but they are also useful in providing mechanical strengthening even though no cavity treatment is accorded the split area. The same rules for hole size apply to lip bolts as were previously mentioned for parallels. Usually they should be

placed approximately twelve to sixteen inches apart, and care should be taken that consecutive holes are not in the same direct line of sap flow but are staggered. When lip bolts are installed in thin-walled wood, it is sometimes necessary to use nuts and washers on each side of the wood wall to provide rigidity and to assure that the walls will not be drawn together.

Bracing Rubbing Limbs.

When two limbs develop so that they rub together, it is usually desirable to remove one of the offenders. This practice would often destroy a desirable limb, however, and it is frequently considered better judgment to resort to bracing.

If limbs are to be held together and encouraged to form a graft, the cambium should be traced away from the points of contact and the resulting wounds given necessary treatment; then a hole should be drilled directly through the two limbs for the bolt. It is sometimes desirable to provide nuts and washers to augment the holding power of the thread in the wood, and, of course, countersinks should be provided for nuts and washers when used.

If limbs are to be held apart, they should be separated temporarily while a hole is drilled in a direct line through the two limbs. As the rod is inserted, either two nuts and two washers, or a pipe covering, should be placed on the

WE OFFER FOR IMMEDIATE DELIVERY

and immediate acceptance the following list of stock at these bargain prices:

	Per 100	Per 1000
BERBERIS THUNBERGII, Japanese Barberry		
3 to 6-in. seedlings	\$0.40	\$ 3.00
6 to 9-in. seedlings	.60	5.00
9 to 12-in. seedlings	1.00	8.00
12 to 15-in. seedlings	1.50	12.00

LIGUSTRUM AMURENSE, Amoor Privet North

Lining-out grade, 6 to 15 inches	\$0.60	\$ 5.00
6 to 12 ins., C., 2 branches up	.70	6.00
12 to 18 ins., C., 2 branches	1.25	10.00
12 to 18 ins., 3 branches up	2.00	15.00
18 to 24 ins., 2 branches	2.00	15.00
18 to 24 ins., 3 branches up	2.50	20.00

SPIRAEA VANHOUTTEI

6 to 12 ins., 1-year, C.	\$0.80	\$ 7.00
12 to 18 ins., 1-year, C.	1.25	10.00
18 to 24 ins., 1-year, C.	1.50	12.00
2 to 3 ft., 1-year, C.	2.50	20.00
18 to 24 ins., hedging	2.00	15.00
2 to 3 ft., hedging	3.00	25.00

5 per cent discount and free packing for cash with order.

If order amounts to \$25.00 or over wire it Western Union collect.

FOREST NURSERY COMPANY, INC. McMinnville, TENN.

Established 1887
By J. H. H. Boyd

J. R. Boyd
President

SHADE TREES

	Per 10	Per 100
Ash, Am. White, 10 to 12 ft.	\$7.50	\$65.00
Ash, Am. White, 2 to 2½-in. cal.	15.00	125.00
Catalpa Bungei, 5 to 6 ft.	7.50	65.00
Elm, American, 10 to 12 ft.	7.50	65.00
Elm, American, 1½ to 2-in. cal.	9.00	80.00
Elm, American, 2 to 2½-in. cal.	12.50	115.00
Flowering Crab, 3 to 4 ft.	4.00
(Eleyi, Floribunda, Hops, Sargentii)		
Japanese Cherry, 2 to 4 ft.	7.50	65.00
Japanese Cherry, 4 to 8 ft.	8.50	75.00
Jap. Weeping Cherry, 1-yr.		
5 to 6 ft.	13.50	125.00
Maple, Norway, 8 to 10 ft.	9.50	85.00
Maple, Norway, 10 to 12 ft.	11.00	100.00
Maple, Norway, 2 to 2½-in. cal.	20.00	185.00
Oak Pin, 2 to 2½-in. cal.	25.00
Oak Pin, 2½ to 3-in. cal.	40.00
Plane, Oriental, 2½ to 3-in. cal.	20.00
Poplar, Lombardy, 6 to 8 ft.	2.50	20.00
Poplar, Lombardy, 8 to 10 ft.	3.00	25.00
Poplar, Lombardy, 10 to 12 ft.	4.00	35.00

Write for prices on other varieties and sizes.

WAYNESBORO NURSERIES, INC.
Waynesboro, Virginia

LINING-OUT STOCK

For shipment June 15, 1938

Juniperus Pfitzeriana

Rooted cuttings, 6 to 8 ins.	\$10.00 per 100
Rooted cuttings, 6 to 8 ins.	90.00 per 1000
Out of 2½-in. pots, 6 to 8 ins.	12.50 per 100
Out of 2½-in. pots, 6 to 8 ins.	110.00 per 1000

PAUL OFFENBERG NURSERY CO.
1088 E. Livingston Ave. Columbus, O.

TAXUS

Cuspidata Capitata

1½ to 9 feet.

Carloads or truckloads only.

VISSER'S NURSERIES

Springfield Gardens, L. I., N. Y.

PRIVET and BERBERIS

Splendid Stock

Write for Special Quotations

LESTER C. LOVETT

Milford Delaware

BULLETIN No. 4

Containing greatly reduced prices, just off the press. Ask for it. Also ask for the Extra Special "You Can Now Tell Your Customers That —"

C. R. BURR & COMPANY, Inc.

Dept. A, Manchester, Conn.

Canterbury Boxwood

Buxus suffruticosa and *B. sempervirens*.
Selected uniform plants; bushy and foliated to center; masses of fibrous roots. Finished specimens from 4 inches up, ready for quick shipment. Prices lower, plants larger. Ask for special list.
CANTERBURY, Box A, Easton, Md.

rod between the two limbs in order to provide a permanent separated position. The ends of the bolt should, of course, be provided with nuts and washers in the usual manner.

A third method of handling rubbing limbs may be of interest, since it allows normal movement, but avoids injury to the limbs. This treatment requires considerable care in its application. First, the limbs are propped apart temporarily. A tapered bark tracing is then made on one limb about two feet long and four inches wide at the point of intersection. Into this tracing is bolted a piece of treated hardwood cut to shape. Into the opposite limb is fitted a specially prepared wide U-bolt. When the temporary blocking is removed, the U-bolt is allowed to move freely across the piece of hardwood without harm to the tree. This treatment, of course, can be considered only temporary, since the wood has to be replaced periodically as it becomes worn.

Cavity Bracing.

Regardless of the type of treatment to be accorded a major tree wound a certain amount of bracing is usually required in an attempt to replace artificially the inherent strength of the decayed or removed woody tissue and to hold the cavity walls in position. Much of the previous discussion concerning crotch bracing, lip bolts, etc., may be applied to cavity bracing, but additional strengthening is sometimes indicated. This work may be classed as internal bracing. This may take the form of X or cross bracing, and backbone bracing.

Cross bracing involves alternate placing of screw rod diagonally across a deep cavity so that in plan the rods form an X shape. Such bracing will keep the side walls from spreading and will tend to minimize the twisting strains that do so much damage to filling materials.

Backbone bracing is sometimes used in an attempt to reduce longitudinal wind sway, but the stresses set up in a large wound and the leverage exerted by a tree in a heavy wind are so great as to preclude any major benefits from this type of bracing. Its use is rarely recommended. Indeed, if a tree is in such a bad condition as to indicate the need of extensive internal bracing of any kind, it is usually better judgment to replace the tree with a healthy one.

LINING-OUT STOCK

Grafted plants from 2½-in. pots

	10	100
Acer palmatum ashi-beni	\$3.50	\$30.00
Acer dissectum atropurpureum	3.00	25.00
Thuja occ. Douglasii spiralis	2.25	20.00
Thuja occ. elegantissima	2.25	20.00
Thuja occ. latea Mary Corey	2.25	20.00
Thuja occ. pyramidalis	2.25	20.00
Thuja occ. Rosenthalii	2.25	20.00
Thuja occ. Wareana (sibirica)	2.25	20.00
Thuja orientalis aurea nana	2.25	20.00
Taxus media Brownii	2.75	25.00
Taxus media Hatfieldii	2.75	25.00
Taxus media Hicksil	2.75	25.00

SEEDLINGS

	100	1000
Juniperus virginiana, 3 to 6 ins.	\$3.00	\$25.00
Pinus sylvestris, 4 to 6 ins.	2.00	15.00
Pseudotsuga Douglasii, 4 to 6 ins.	2.50	20.00
Syringa vulgaris, 4 to 6 ins.	2.00	15.00
Thuja orientalis, 3 to 6 ins.	1.50	10.00
Taxus media, 8 to 12 ins., transpl.	5.00	40.00

Hess' Nurseries

Mountain View, New Jersey

Jackson & Perkins Company

Wholesale Nurseries

NEWARK

NEW YORK STATE

LINING-OUT STOCK

Connecticut Valley Grown
Seedlings - Rooted Cuttings
Evergreen and Deciduous

Write for list

C. E. WILSON & CO., INC.
Manchester, Connecticut

PRINCETON NURSERIES

of PRINCETON, N. J.

SUPERIOR

Hardy Ornamentals

QUALITY NURSERIES

Allenwood, Pa.

Largest Nursery in Central Pennsylvania

Special Prices

on

Hemlock—Yew—Arbor-vitae

LINING-OUT STOCK

Evergreen Seedlings, Transplants,
Maples, Nut and Apple Trees.

Write for price list.

Special reduced prices.

MATHEWS EGGERT NURSERY

North Muskegon, Michigan

Ruling on Split Time

Social Security Tax Rule on Employees Who Perform Both Exempt and Nonexempt Services for Same Employer

The bureau of internal revenue of the United States Treasury Department, Washington, D. C., made the following ruling, known as S. S. T. 286, May 2, 1938, regarding the computation of wages of an employee who performs for the same employer certain services which constitute "employment" under the social security act and other services which are excepted therefrom, such as agricultural labor.

"The question is presented under titles VIII and IX of the social security act in connection with the computation of 'wages' of an employee who performs both excepted and nonexcepted services for the same employer, whether the regular pay roll period of such employee should be used as a basis in determining whether one type of service is incidental in measure of time to the other, or whether the time devoted to both types of service is substantial within the meaning of S. S. T. 125 (C. B. 1937-1, 397) and S. S. T. 174 (I. R. B. XVI-30, 8, 1937).

Decision on Status.

"S. S. T. 125, supra, states in part as follows:

"If an employee during certain periods renders services which constitute 'agricultural labor' and during other periods renders services which constitute 'employment' within the meaning of that term as defined in the taxing provisions of the act, and the period of time devoted to each type of service is substantial, the services which constitute 'agricultural labor' must be segregated from the services which constitute 'employment' on the basis of the time during which each type of service is rendered. If, in such a case, the agricultural services cannot be so segregated, the entire services must be considered as 'employment.' Thus, if an employee concurrently performs services which, if separate and distinct as to time of performance, would constitute 'agricultural labor,' and other services which constitute 'employment,' the entire services must be classified as 'employment.'

"Where, however, an employee during certain periods renders services which constitute 'agricultural labor' and during other periods renders services which constitute 'employment,' and one type of service is merely incidental in measure of time to the other, then, even though it is possible to segregate the one type of service from the other, the incidental service may be disregarded in determining whether the employee is engaged in 'agricultural labor.' Thus, if an individual employed on a farm is engaged principally in repairing farm machinery and equipment but incidentally engages in the performance of services in connection with the cultivation of the soil, his entire services may be treated as having been performed in 'employment,' the incidental agricultural services being disregarded. On the other hand, if an individual employed on a farm is engaged principally in the performance of services in connection with the cultivation of the soil but incidentally repairs farm machinery and equipment, his entire services may be treated as 'agricultural labor,' the incidental nonagricultural services being disregarded. No fixed rule can be laid down for the determination of what constitutes incidental services for this purpose, but any reasonable conclusion reached by the employer in that regard will not be disturbed.

"(See also S. S. T. 174, supra, relative to the application of the above rules to domestic service in a private home.)

"In determining in the case of an employee who performs both excepted and nonexcepted services whether one type of service is incidental in measure of time to the other or whether the time devoted to both types of services is substantial within the meaning of the above rules, it is contemplated that such rules be applied to each pay roll period of the particular employee involved, that is, to each period for which a payment of remuneration is ordinarily made to the employee by the employer.

The following examples will serve to illustrate the method of computing the wages of such an employee:

"Example 1. Services Substantial and Not Segregable.

"A owns and operates a store which is located in the same building with his private home. He has engaged the services of B to clean the store, arrange the merchandise, take orders, etc., and also to keep A's living quarters clean and perform such other domestic duties as may be required. B's services performed in the store are not segregable in measure of time from those performed in A's living quarters.

"Applying the rule set forth in S. S. T. 174, supra, B's entire services must be treated as 'employment' and his total remuneration constitutes 'wages' under titles VIII and IX of the social security act.

"Example 2. Services Substantial and Segregable.

"C is employed by D to perform services on a farm owned by the latter and is paid weekly by D on the basis of a 6-day week. C's services, which consist of the cultivation of the soil and the raising and harvesting of crops, clearly constitute 'agricultural labor,' which is excepted from employment under sections 811 (b) 1 and 907 (c) 1 of the social security act. However, on certain days C is required to perform services in a commercial cannery owned by D, which services are clearly 'employment.' D performs services in the cannery at least one day each week. It is clear that such services are substantial in measure of time and are not merely incidental to those which constitute agricultural labor. Accordingly, the ratio between the number of days during any pay period in which C performs services in the cannery and the total number of working days within that period (six) should be applied against his total remuneration for that period in order to compute his taxable 'wages.' Thus, if during any week C worked one day in the cannery, his

taxable wages would be one-sixth of the total remuneration for that week.

"Example 3. Nonexcepted Service Incidental.

"E, who is paid monthly, is employed by a doctor whose office is located in his private home. Each morning E is required to clean the office, which duty requires approximately fifteen minutes of E's time. During the balance of the day, E is required to clean and take care of the living quarters of the doctor and his family, cook meals and perform such other domestic duties as may be required.

"The services performed by E in or about the private home of his employer are excepted from employment under sections 811 (b) 2 and 907 (c) 2 of the act as 'domestic service in a private home.' However, although the services performed by E each morning in cleaning the doctor's office constitute 'employment,' such services are clearly incidental in measure of time to those which are excepted from employment. Accordingly, even though the services are segregable, the entire services may be treated as excepted from employment and no tax liability under titles VIII and IX of the act is incurred with respect to the remuneration paid to E."

WAGE BILL BACK AGAIN.

The wages and hours bill is alive in Congress again as a result of a petition in the House of Representatives to release the measure from the rules committee and bring it to the floor for consideration of the House. It will probably be voted on May 23. Opponents of the bill admit that it will probably be passed by the House of Representatives. A fight against it will be made in the Senate when it arrives there.

In its present form the bill provides for minimum wages of 25 cents per hour to be raised to 40 cents per hour over a 3-year period, and maximum hours of forty-four per week to be reduced to forty hours in two years. The law would be administered by the Department of Labor and enforced by the Justice Department. It carries no differentials between different sections of the country.

A bill in the Senate provides for flat minimum wages of 40 cents an hour and a maximum 40-hour work week. It creates a 3-man administrative board

FRUIT TREE SEEDLINGS

Large growers of Washington and Kansas-grown Apple and Pear Seedlings; Portland-grown Mahaleb, Mazzard, Myrobalan and Quince stocks.

We carry a complete line of general nursery stock.

Send list of your wants for prices.

SHENANDOAH NURSERIES

A. F. Lake
Pres.

Shenandoah, Iowa

R. S. Lake
Sec.-Treas.

HARDY LILIES

are increasingly popular with amateurs. If you don't stock them, you're missing profits you can easily have.

These four varieties are as easy to grow as painted daisies, perfectly hardy anywhere, bloom all summer.

Special prices for advance booking, for cash with order:

Coral (*L. tenuifolium*), scarlet blooms in May. September delivery, 2 to 2½ ins., \$2.00; 2½ to 3 ins., \$2.50; 3 to 3½ ins., \$4.00; 3½ to 5 ins., \$5.50 per 100. Quantity prices and planting sizes quoted on request.

Regal (*L. regale*), white blooms in June. October delivery, 5 to 6 ins., \$6.50; 6 to 7 ins., \$8.00; 7 to 9 ins., \$10.00 per 100.

Tiger (*L. tigrinum*), orange blooms in July. September delivery, 4 to 5 ins., \$2.50; 5 to 6 ins., \$4.00; 6 to 7 ins., \$5.50. Write for quantity prices on planting stock.

Henry (*L. Henryi*), tall plant, many large yellow blooms in August. 6 to 7 ins., \$9.00; 7 to 9 ins., \$12.00; 9 ins. and up, \$15.00 per 100.

Muscari Armeniacum

Very early prolific bloomer, deep cobalt-blue flowers, charming in the rock garden, splendid for massing in a low border in front of shrubs or under trees. August delivery. Blooming size, \$8.00; large, \$8.00; jumbo bulbs, \$12.00 per 1000.

FRANK M. RICHARD, Jr.
P. O. Box 363 Fort Collins, Colo.

MAY SPECIALS

- Pfitzer's Juniper liners
- Norway Spruce liners
- Baby Phlox liners
- Good assortment shrubs in cold storage.

SHERMAN NURSERY COMPANY

Charles City, Iowa

WILLIS NURSERY Co.

Wholesale Nurserymen

Write for Catalogue

OTTAWA - - KANSAS

MOUNT ARBOR NURSERIES

E. S. Welch Est. 1875 Shennandoah, Iowa

A COMPLETE LINE OF GENERAL NURSERY STOCK—ASK FOR TRADE LIST

Send us your WANT LIST for quotations
"One of America's Foremost Nurseries"

HILL'S EVERGREENS

Complete assortment of lining-out sizes
Also larger grades for landscaping
Send for our wholesale catalogue

D. HILL NURSERY CO.
EVERGREEN SPECIALISTS
Largest Growers in America
Box 402 DUNDEE, ILLINOIS

Please Mention

THE AMERICAN NURSERYMAN

when writing advertisers

and allows geographical differentials. The sharp differences between the two measures forecasts a bitter battle in conference, if a filibuster does not trap the legislation in the rush for adjournment.

D. OF C. PLANT REGULATIONS.

The Secretary of Agriculture has announced a revision of the rules and regulations governing the movement of plants and plant products into and out of the District of Columbia effective April 30, 1938.

Shippers will find few changes in the the shipping requirements. The definition of nursery stock is clarified to show that it includes woody plants and parts capable of propagation (except domestic-grown seeds and fruit pits), foreign-grown seeds of woody plants, of palms, of vicia (vetch, etc.) and of lathyrus (sweet peas, etc.). As heretofore, an inspection certificate is required in shipping nursery stock, herbaceous perennials, bulbs and roots, from the District of Columbia to points outside.

In shipping into the District of Columbia this certificate is required for nursery stock, and labeling as to contents is required for nursery stock, herbaceous perennial plants, bulbs and roots.

SHERMAN OPENS SALES YARD.

For those customers who like to see what they buy, the Sherman Nursery Co. opened a 3-acre nursery garden on U. S. highway 218, just south of Charles City, Ia., April 23. A sales building was constructed and plantings were set out of ornamental evergreens, shade trees, shrubs, perennials, etc. Pottery and lawn furniture and ornaments were displayed, and insecticides and spray materials were offered.

A circular sent out announcing the opening of the nursery garden attracted many visitors, and good business resulted during the ensuing week. To each of the first 500 visitors was given a gift package of ten large gladiolus bulbs.

An abundance of rain during the month of April increased the demand for nursery stock throughout the middle west. The Sherman Nursery Co. has 600 acres adjoining Charles City, where it has grown nursery stock for fifty-three years. The new display garden is expected to increase further its large retail sales.

OBITUARY.

Frank E. Conine.

Founder of the Conine Nursery Co., Stratford, Conn., Frank E. Conine died at his home April 27 after a long illness. He was 75 years of age. Born at Newark, N. Y., Mr. Conine practiced law in New York and Missouri for some time before entering the nursery business. The nursery was established in 1895.

Mr. Conine took a prominent part in civic and political affairs before his illness. He was the last first selectman of the city before the city managership system was installed.

He is survived by his widow, Mrs. Florence E. Conine; a daughter, and two sons, Thomas J. and Fred Webster, both of whom are associated in the Conine Nursery Co. Thomas Conine has been acting as president of the firm for several years.

FINE LINING-OUT STOCK

A-1 condition. Quick shipment.

	Per 100
Altham, double red, 12 to 18 ins.	\$2.50
Barberry, Jas. green, 6 to 12 ins., 2-year	2.50
Cydonia, Jas. Quince, 12 to 18 ins.	2.50
Forsythia Fortunei, 12 to 18 ins.	3.00
Forsythia intermedia, 12 to 18 ins.	3.00
Spiraea Vanhouttei, 12 to 18 ins.	2.50
Weigela Rosea, 9 to 12 ins.	2.50
Clematis Panicleata, transplants	4.00
Bittersweet, Am., fine stock	3.00
Boston Ivy, fine 1-year stock	2.50
Ash, White, 2 to 3 ft.	2.50
Buttercup, 2 to 3 ft.	2.50
Buttercup, 12 to 18 ins.	1.50
Catalpa Speciosa, 2 to 3 ft.	1.50
Elm, Chinese, 2 to 3 ft., very fine	2.50
Locust inermis, thornless, 2 to 3 ft.	2.00
Mulberry, Russian, 2 to 3 ft., nice stock	1.75
Russian Olive, 2 to 3 ft., very fine	3.50
Redbud, 12 to 18 ins.	1.75
Redbud, 2 to 3 ft., very fine	4.00
Tulip Tree, 2 to 3 ft., very fine	3.00

Free packing for cash. \$5 at 100 rate.

HARMON NURSERY

Prospect, O.

FALL 1938

ELM, American, Moline and Vase, up to 4 ins. All transplants.

MAPLE, Norway, up to 3½ ins. Transplants, extra select, spaced 7x7 ft.

POPLAR, Lombardy, up to 2 ins.

WILLOWS, Thunbergii, up to 3 ins.

BARBERRY, Thunbergii, up to 2 to 3 ft.

SPIRÆA, Vanhouttei, up to 5 to 6 ft.

APPLE, 2-year.

CHERRY, 1-year.

PEACH.

All of above items can be supplied in carload lots.

Send for list on many other items.

C. M. HOBBS & SONS, INC.
Bridgeport, Indiana

Largest Nursery in Indiana. Est. 1875.

JEWELL Wholesale

Hardy Minnesota-grown
Nursery Stock and Liners

THE JEWELL NURSERY CO.
POUCH N
Lake City, Minnesota

COMPLETE STOCK

Lining-out Evergreens
and Shrubs

Write for list.

SCOTCH GROVE NURSERY
Scotch Grove, Iowa

DAPHNE CNEORUM

Write for our
New Wholesale List

EDEN NURSERIES
Eden, New York

THE WESTMINSTER NURSERIES

WESTMINSTER, MARYLAND

Fruit and Shade Trees, Evergreens, Shrubbery, all sizes up to 7 ft. California Privet, 5 to 7 ft., in grades. Heather, assorted, 8 to 18-in. clumps. Evergreen Privet and Barberry, Ever-nials, etc.

We have a very complete line.
Trade list sent on request.

Pacific Coast News

DOUBLE BILLING.

Defined by Horticultural Industries.

The following information on double billing was released by Horticultural Industries, Inc., Los Angeles, Cal., for the guidance of nurserymen and other members of the organization who handle nursery stock:

"Double billing may be termed any process by which the consumer is deceived as to the true purchase price of an article when that article is purchased through a representative, agent or by means of contract. A landscape gardener or architect is really an agent of his client and as such is responsible to the client and not to the nurseryman. If the nurseryman invoices his merchandise so that the agent can represent that the true purchase price of the article was \$1, for example, when the actual purchase price was only 75 cents, then both the nurseryman and the agent are guilty of double billing and the client can refuse to pay for the merchandise.

"In addition, this practice has been termed a secret rebate in the meaning of the unfair practices act and is a misdemeanor punishable by a fine of not less than \$100 or more than \$1,000 or six months in jail or both.

Net Amount Must Be Shown.

"Another method of double billing is this. The nurseryman sends the landscape man a bill for \$1, which in turn is passed on to the consumer for payment. At the end of the month, the landscape man settles with the nursery for only the net amount, which may be from fifteen to twenty-five per cent less than the actual invoice rendered. This practice is absolutely illegal and not only are the sellers subject to the loss of payment for the plant material, but also are liable to prosecution under the unfair practices act.

"Another system used by nurserymen is to render two invoices. The original shows the price of \$1, less the customary discounts, but the duplicate carries only a half carbon paper and shows only the retail price of the material. It is that duplicate which is given to the customer for payment. That practice is absolutely illegal.

"While it is true that the trade has followed this system of helping a landscape man or other agent secure a dis-

count unknown to the customer, several nurseries have been tripped up by this practice and have paid heavily for it. Until recently they stood only to lose the value of the merchandise sold, but now they also take a chance of going to jail.

"In general, conduct the business so that all invoices are for the actual amount of money expected to be received. Show all discounts on all invoices and give no discounts not shown by invoices to be safe. Do not double bill or cut back under any circumstances. Play safe and be honest, and do not deceive anyone as to the amount of money being received for plant material."

SHOW HONORS JOHN McLAREN.

A flower show featuring rhododendrons and azaleas was given at the Fairmont hotel, San Francisco, May 6 for John McLaren, superintendent of Golden Gate park, by the California Horticultural Society and the San Francisco Garden Club. Exhibits of rhododendrons were arranged by the Golden Gate park; P. V. Matraia, of the Bay Meadows Nursery; Toichi Domoto, Hayward, and California Nursery Co., Niles, with specimens coming also from the University of California, Berkeley. Lois Martin and T. V. Overlach had a display of Kurume azaleas.

Among the rhododendron specimens which the University of California exhibited were: R. Maenabianum, fastigiatum, Loderi, G. A. Sims, Lindleyi, tephropeplum, Ravern, leucaspis, occidentale, occidentale X molle, Simsii, molle, suberosum, Dalhousie, Exoniense, ciliatum X Veitchianum, roseum, glaucum, Griersonianum, decorum, Davidsonianum, neriifolium, mucronatum, flavum and yunnanense.

Among the specimens from the Golden Gate park were a number of fragrant ones which excited interest—Exoniense, Handsworth Brilliant, Countess of Sefton, William Austin, John Water, Maenabianum, John Clutton and Keysii. In addition were: Mother of Pearl, ponticum, Augustinii, catawbiense, roseum elegans, fastuosum, californicum, Madam Wagner, Chevalier Felix de Sauvage, Alice, Cunningham's White, James Mason, Cynthia, Pink Pearl, White Pearl and formosum. An educational exhibit of methods of growing was included in the display.

LOS ANGELES NOTES.

Peck & Wadsworth, tree specialists, have what is said to be the most unusual collection of standard tree-type wisterias ever displayed in southern California in full bloom in their yards.

At the meeting of the Southern California Horticultural Institute, held at the Mayfair hotel, a record crowd turned out to hear Alfred Carl Hottes, who made an excellent talk on "I Think I Know Your Customer." Results of the exhibits made in the popular institute forum contest were: First, to the West Los Angeles Nursery of Ernest Rober, for an elaborate display of pelargoniums; second, to Paul J. Howard's Horticultural Establishment, for an interesting showing of new plants, and third, to

Karl Karg, for gloxinias. Harold McFadden, genial president of Horticultural Industries, Inc., entered a freak exhibit, a large flower spike, with no foliage at all.

R. H. Mesick, nurseryman of Montebello, has been confined to his home for several months with a fractured ankle.

Santa Ana Botanic Gardens will be open to the public Saturdays, following many requests by persons unable to view them on Fridays. One-half of the total number of varieties of the native California trees and shrubs are now at their best. More than 500 specimens are growing along ten miles of trails. There are cut flower exhibits and a fine display of native cacti.

PACIFIC COAST DATES.

The Pacific Coast Association of Nurserymen, composed of members in Washington, Oregon, California, Idaho and British Columbia, will hold its annual convention at Seattle, Wash., July 6 to 8.

A BRANCH office of the Great Lakes Nursery, Saratoga, Cal., has been opened at Mountain View and Saratoga roads, near Saratoga, by Mrs. Stephen Jarret, manager. Mrs. Raymond Kellogg will have charge.

A NEW business venture in southern California is the nursery opened recently by George E. Marsh at Huntington Park, Cal. Mr. Marsh has been in the trade about twenty-five years. His son, Cy H. Marsh, will assist him.

WITH the purchase of six acres of land near San Rafael, Cal., John Henry Johnson of that city announced that he would begin the construction of a nursery immediately. He will also build a tourist camp on the property.

A. ALDER, owner of the Alder Gardens, a nursery near Marshfield, Ore., received word recently that he had inherited approximately \$75,000 from an English relative. He plans to continue his business, possibly using some of the money for improvements.

Potted Perennials

Plant now for summer sales.

Sell on sight when in bloom, move easily with a little soil and are profit-makers for July, August and September. Shipped with pot ball intact and are sure to live.

Chrysanthemums, early azalea type, many colors.

Korean Mums, five fine varieties.

Asters, new hardy varieties.

Carnations, Japanese Anemone, Tritoma.

Hardy Phlox, many new varieties.

Reasonable prices, send for list.

HARMON NURSERY, Prospect, Ohio

SECRETARIES, PLEASE NOTE.

The news columns of the American Nurseryman are open to all trade organizations throughout the country. The officers can promote interest and membership in their organizations by forwarding reports of their activities for publication. Many nurserymen in your own state not now members subscribe to this magazine and will be induced to join by reading of the work of your organization. More than that, the trade throughout the country is interested to know what is going on, and greater unity of effort for the advancement of the industry is promoted in this way.

"A friendly, efficient sales service"

E. D. ROBINSON
Sales Agent

38 So. Elm St., Wallingford, Conn.
P. O. Box 285

Representing

Adams Nursery, Inc.
Bristol Nurseries, Inc.
Barnes Brothers Nursery Co., Inc.
North-Eastern Forestry Co., Inc.
A. N. Pierson, Inc.

A complete line of well grown, hardy plant material

Oregon-grown ROSEBUSHES

Send
for
List

PETERSON & DERING, Inc.
Wholesale Rose Growers
SCAPPOOSE, OREGON

New Rose TEXAS CENTENNIAL (Red Hoover)

Plant Patent No. 102

Ask for color illustration
and prices.

Also for our general list
of roses.

DIXIE ROSE NURSERY
Tyler, Texas

HARDY ROSES

Boxed f.o.b. cold storage at St. Louis,
Mo. No additional charges.

American Pillar, Climbing Baby Ram-
bler, Dorothy Perkins, Excelsa, Marie
Gouchault, White Dorothy Perkins.
F. J. Grootendorst, red.
Hansa, red.
Belle Poitevine, pink.
Sir Thomas Lipton, double white.
Sarah Van Fleet, everblooming tea-
scented double pink.
Rugosa Alba, single white.

Wire or write for list.

VERHALEN NURSERY CO.
Scottsville, Tex.

**HARDY
Rosebushes**
for 1938-39
HOWARD ROSE CO.
Hemet, California



FRUIT TREE SEEDLINGS

Western-Grown Per 1000
Apple, 3/16-in. \$12.00
French Pear, 3/16-in. 12.00
Myrobalan Plum, 1/2-in. 12.00
These are well graded, sturdy, healthy seedlings,
on which we do our own budding and are sure to
please. Supply limited.

C. R. BURR & COMPANY, INC.
Dept. A—Manchester, Conn.

HERBS

Pot-grown plants; over a hundred varieties.
Dried Herbs for Flavoring and Fragrance.
Other plants of unusual character and
with the charm of old-time gardens.

Write for Catalogue

Weathered Oak Herb Farm, Inc.
BRADLEY HILLS, BETHESDA, MARYLAND

SAN FERNANDO VALLEY NOTES.

The San Fernando Mission gardens, known as Memory Gardens, are in excellent condition now, with an unrivaled collection of native shrubs, flowers and trees in fine exhibition form, together with many other flowers now in bloom.

The San Fernando Nursery Co., managed by H. W. Carter, is near the mission and was established as the first nursery in the valley, in 1924. From here is supplied much material for landscape architects for their work on the many new homes in this area. Prospective amateur valley gardeners are hard to persuade that they have peculiar gardening problems, which make it practically impossible to grow the same shrubs, in many cases, as in other sections. The freak hailstorm of last week and the frost of two years ago are just a good way of forcing pruning upon gardeners, according to Mr. Turner, of the nursery's staff, who says California gardeners plant about twice what they should and prune about half as much as they should.

Peter Mordigan, of the Mordigan Evergreen Nurseries, San Fernando, has forty well located acres on San Fernando road, devoted almost exclusively to conifers and roses.

JOINS CONARD-PYLE CO. STAFF.

The Conard-Pyle Co., rose grower of West Grove, Pa., has appointed Max A. Nagler, formerly of the department of floriculture and ornamental horticulture at Cornell University, Ithaca, N. Y., to take charge of the propagation of perennials and woody plants.

Mr. Nagler was connected with the Cornell test gardens since October, 1935. As supervisor of the Cornell rock garden, he experimented in the propagation and culture of alpine and rock garden plants and recently compiled a list of desirable rock garden plants.

While he was at Cornell, the collection of rock garden plants there was increased until it now numbers more than 1,500 species and varieties, including many rare and choice specimens. Mr. Nagler's specialty is primroses.

Mr. Nagler, who was born in Berlin, Germany, has been connected with floriculture nearly all his life. He attended the horticultural college at Dahlen, held an assistantship in the botanical garden at Marburg University and was employed in the Palmen garden in Frankfurt, Germany. In America he was with a number of nurseries before he joined the Cornell staff. His position at Cornell University will be filled by Warren Wilson, Spring Valley, N. Y., now a senior in floriculture.

A TRIP to Europe is being made by Walter B. Clarke, head of W. B. Clarke & Co., nursery firm of San Jose, Cal., to inspect gardens and nurseries abroad and collect ornamental shrubs. His son, James, will accompany him. They plan to return about the middle of June.

DAVID H. COOLIDGE, 75, a nationally known landscape architect, died at Santa Barbara, Cal., May 3. At one time Mr. Coolidge was associated in the development of Staten Island, N. Y., and he also designed many outstanding New England estates. He went to the Pacific coast in 1915 and moved to Santa Barbara in 1920.

Portland Wholesale Nursery Co.

306 S. E. 12th Avenue
Portland, Oregon

To the Trade Only

A complete line of
Nursery Stock and
Nursery Supplies.

Catalogue sent on request.

A. MCGILL & SON

FAIRVIEW, OREGON

Wholesale Only

ROSES

Send us your list of wants

Fruit Tree Seedlings

Flowering Ornamental Trees
Shade Trees

Grown right and packed right

Combination carloads to eastern distributing
points save you on freight.

MILTON NURSERY CO.

Milton, Oregon

"Pioneer Nursery of the Northwest"

Fruit, Shade, Flowering and Orna-
mental Trees, Fruit Tree and Chinese
Elm Seedlings.

Car lot advantages to all points east.
Send for our Trade List.

ORENCO NURSERY CO.

Oreneo, Oregon

Wholesale Growers

Fruit, Shade, Flowering Ornamental
Trees, Fruit-tree Seedlings, Roses, Etc.

Very complete line of quality stock

Catalogue sent on request.

PACIFIC COAST NURSERY

1436 N. E. Second Ave. PORTLAND, ORE.

Largest Fruit Tree Seedling Growers
in America.

We accept growing contracts for 3 to 5 years.
Quality stock. References on request.

John Holmason, Prop.



EVERGREENS

For Seventy-four years
growers of Quality Evergreens
Lining-out Stock a Specialty

Write for Trade List

EVERGREEN NURSERY CO.

Established 1864 : STURGEON BAY, WIS.

For list of
BOOKS ON TRADE SUBJECTS
Write to
AMERICAN NURSERYMAN

Reviews of New Books

"THE GARDEN OF PINKS."

"The Garden of Pinks," by Dr. L. H. Bailey, provides a horticultural work that should do much to untangle the confusion relating to the species dianthus in cultivation. About 200 specific names are accounted for in the book. In addition, the volume has as an objective the stimulation of renewed interest in pinks, well accomplished through the enthusiastic approach of the author, who mentions his keen personal interest in the group since childhood.

The pinks, popular in many countries for centuries, include the carnation as well as the sweet williams, cottage pinks, border and rock garden plants and numerous other categories. The present book is a delightful treatment of the uses and cultivation of pinks of all kinds in North America, including the commercial greenhouse carnation, with two chapters on insects and diseases written by specialists—W. E. Blauvelt and P. P. Pirone, both of Cornell University, Ithaca, N. Y. Reappearing is an essay on pinks from an earlier work by Dr. Bailey, "The Garden Lover."

Dr. Bailey comments that he has grown hundreds of kinds of pinks over many years and has accumulated many data relating to them. He takes up the different groups separately in his book and offers, in an alphabetic enumeration, descriptions of the species, which are followed by a botanical key, so that a given plant may be run down to its name. Brief instructions on growing the different classes of pinks also appear. The 142-page book has a colored frontispiece and forty-four full-page drawings in black and white, with a cloth cover. The price is \$3 per copy.

HERBS FOR NORTHERN GARDENS.

Those who would enrich their knowledge of herbs in line with the current trend of interest in this class of plants will find the new book of Minnie Watson Kamm, "Old-time Herbs for Northern Gardens," a readable and useful source of much information. This large handsome book, profusely illustrated, tells all about the herbs that can be grown with ease in the northernmost gardens of this country as well as in the warmer states, with the possible exception of Florida. Little, Brown & Co. are the publishers.

There are over 100 sections in the book, each one devoted to a particular herb family, with a historical discussion, a sketch of the soil and climatic conditions favorable to its growth and a list of its various uses. The writer classes as herbs condiments and medicinals which have been grown in the home garden and stored by the grower for the benefit of the immediate family. Some are annuals, and a few are biennials, but most of them are perennials, easily grown from seeds, which will withstand an aridity and sterility of soil that would discourage flowering plants.

The present popularity of herbs is well deserved, declares the author, for the plants have much to offer the home gardener. Some are attractive in the

flower garden, some are valuable in the kitchen garden, others hold sentiment or have interest as a curiosity, while many are ideal for the native garden or rock garden. A few are banned because they usurp too much space.

The text is printed in large, clear type. Thirty-two pages at the end of the 256 pages of text are devoted to excellent reproductions of herbs, many of them being full-page in size. Small detail sketches decorate many of the text pages. Both the Latin and English names are indexed, and there are listings of herbs according to their uses. The book is attractively bound in green cloth and is priced at \$3 per copy.

FLORIDA WILD FLOWERS.

In a new edition of "Florida Wild Flowers," Mary Francis Baker has increased the scope of her observations relative to the flora of this southern state. The enlarged volume—245 pages—offers an account of 800 of the more common and interesting wild flowers and includes a useful key index based on color and other characteristics. The work was originally published in 1926 by the Macmillan Co.

The grouping is according to families. Frequently there are interesting notes on the historical background of the genus, along with the more botanical items. The common names of the plants are also given in the general comments. The species descriptions that follow tell the color, type of growth and distribution. Fifty half-tone plates from photographs made by the author illustrate about the same number of plant subjects.

The book is cloth-bound and is offered at \$3.50 per copy, postpaid.

WATER GARDEN MANUAL.

Persons interested in water gardening have doubtless been led to obtain a copy of one of the earlier editions of Amos Perry's "Water Plant Manual," recently issued in a fourth and amplified printing. For years this publication has been considered the most complete manual of water plants ever published and has served as excellent reference work for amateurs and professionals. In the new edition descriptions and cultural directions are given for over 1,100

water and moisture-loving plants. In addition, there are full plans for constructing and maintaining ornamental pools. The text, of 120 pages, is illustrated with more than 135 half-tone reproductions and line drawings of water plantings and suitable subjects. Art paper enhances the fine illustrations.

Besides water lilies, the groups of plants described include other plants that grow in the water, plants that grow at the water's edge or at a shallow depth and plants which enjoy a location in the neighborhood of water. Several pages are given to hardy fish and scavengers, and there are also valuable comments on aquaria for the home. Perry's Hardy Plant Farm is located at Enfield, England.

SHADE TREE PESTS.

"Insect Enemies of Shade Trees," by Glenn W. Herrick, professor of economic entomology at Cornell University, discusses primarily the problem of preservation of shade trees from insect pests, but it treats as well the related question of the comparative utility of the different trees in point of aesthetic value, hardiness, adaptability and immunity to injury and disease. It also describes accepted methods of fertilizing shade trees. The book is issued by the Comstock Publishing Co.

Among those who should find the book useful are persons engaged in the business of caring for and treating shade trees, home owners, members of shade tree commissions, state highway department members and all others interested in preserving shade trees. The text discusses in detail all the important insect enemies of shade trees east of the Rocky mountains and most of those on the Pacific coast. The approach to the subject matter is practical; only that material is presented which is pertinent to the questions of injury by and control of the insects.

There are three introductory chapters: "The Value of Shade Trees and General Methods of Protection from Insect Attacks," "Materials and Apparatus for the Control of Shade Tree Insects" and "Suggestions for the Care of Weakened Trees." These are followed by chapters on all the important shade trees, under which are treated the varieties of insect pests, their life

CLASSIFIED ADVERTISING

Peonies: Tree and Herbaceous, best varieties. Oberlin Peony Gardens, Sinking Springs, Pa.

Hemlock, Jack, White, Norway and Scotch Pine, up to 12 ft. Honey Locust, Oak, Moline Elm. Elmgrove Nursery, Leesville, Mich.

Fine Quality Wood Labels, all sizes, plain, painted, wired, printed.

F. Heinze & Co., Arlington Heights, Ill.

Colorado Spruce liners (Picea pungens). 1000 6 to 8 in., X flats \$60.00 per 1000
2500 8 to 10 in., X 90.00 per 1000
1500 10 to 12 in., X 110.00 per 1000

Cash with order.
Kapp's Duluth Nursery, Duluth, Minn.

Nurserymen, Attention!
Can you afford to miss this?
RED CUSHION, \$5.00 per 100.
WHITE CUSHION, \$7.00 per 100.
BRONZE CUSHION, \$7.00 per 100.
PINK CUSHION, \$2.00 per 100.
NOTE: The CUSHION is the well known AMELIA, also called AZALEAMUM. Order now.

Wonderland, Ellerson, Va.

FOR SALE

My property and business on Grand River avenue, one of the finest highways in the world, 3 miles from Detroit city limits. Have been here 25 years. Have done an honest business and built up a good reputation. Trade is about 40 per cent retail and 60 per cent to dealers. Reasons for selling. Price right and easy terms to the right purchaser. Will assist April, May, September and October. An outlet for a wholesale nursery.

Clarence Aldrich, Farmington, Mich.

PEACH PITS

THE
Howard-
Hickory
Company

Hickory, N. C.

Up-to-date information
on germinating
TREE & SHRUB SEEDS

Dr. L. C. Chadwick's articles on
"Improved Practices
in Propagation by Seed,"
reprinted from American Nurseryman.
Price 25c (postpaid)

HERBST BROTHERS

92 Warren St. New York, N. Y.
Write for free Tree and Shrub Seed
Catalogue containing flower and vegeta-
ble seeds attractively priced.

**CHIEF and LATHAM
RASPBERRIES
ANDREWS NURSERY
FARIBAULT, MINN.**

**Wholesale Growers of
Grapevines, Currants,
Gooseberries, Blackberries
and Raspberries**

Let us quote on your requirements

FOSTER NURSERY COMPANY, INC.
60 Orchard St. Fredonia, N. Y.

PEACH PITS

Our Pits Compare Favorably
With the Best

HOGANSVILLE NURSERIES
HOGANSVILLE, GEORGIA

SMALL FRUIT PLANTS

Evergreens — Shrubs
Lining-out Stock

Send for Complete Trade List

SCARFF'S NURSERIES
New Carlisle, O.

HANSEN BUSH CHERRY

The newest in early-bearing cherry fruits.
Dwarf growing. Enormous yielding. Extremely
hardy and drought-resistant. Large, choice eating
fruits. Delicious preserves, jelly, jam, cordial.

Trial: 3 Large 2-Year, \$1.00; 15 Large 2-Year,
\$2.50; 12 Small, \$1.50. All Prepaid.

Send for our list of Newest Plant Introductions.
CARL A. HANSEN NURSERY
Brookings, S. Dak.

**Our Specialties Are
GRAPEVINES, CURRANTS,
STRAWBERRIES**

General line of Small Fruit plants

Trade list sent on request

L. J. RAMBO'S WHOLESALE NURSERIES
R. 1 Bridgman, Mich.

PEONIES

All types, including Tree Peonies

The Cottage Gardens
Lansing, Mich.

histories, the nature of the injuries they inflict, the means of detecting their presence and the best means of their control. A clear system of cross-referencing increases the utility of the book.

The latest entomological findings are set forth in a clear, concise, readable style, with few technical terms. References to available literature are added as a further aid to the reader with a particular problem. The book is illustrated with 350 half-tone reproductions and drawings of the insects and their work. There are 400 pages, exclusive of those devoted to the indexes, and the volume is cloth-bound. It sells for \$4.50 per copy.

THOMASVILLE ROSE SHOW.

Thomasville, Ga., held its seventeenth annual rose show April 29. Almost all local florists and nurserymen had displays. The Lone Star Gardens, owned by George Willis, arranged a rural garden. The Wells Floral Shop had an exhibit in which rare flowers were featured. A. Ethrington, of the Wayside Nurseries, created a modern garden. The Rose City Greenhouses had a rustic scene with a waterfall. A large display was made by the Thomasville Nurseries, including a miniature home and garden and an exhibit of specimen blooms.

DISSOLUTION of the John S. Kerr Nursery Co. is under way and the charter of incorporation will be canceled shortly. The entire holdings of this concern were taken over June 30, 1937, by the Texas Nursery Co., Sherman, Tex.

LARGEST present project of the R. Lacy Nursery, Longview, Tex., is improvement of the home grounds, which consist of about twenty acres. Formal gardens, naturalistic gardens, drives and an artificial lake are planned. The project will take about two years to complete.

A **RECENT** addition to the staff of the Farr Nursery Co., Weiser Park, Pa., is Harold C. Shoemaker, formerly of Northampton. A graduate of Pennsylvania State College, Mr. Shoemaker has done landscape work in Reading and several other cities in that locality.

CONSIDERABLE sales in lining-out stock of Juniperus communis, Juniperus scopulorum and perennial flowering plants have made business good in recent weeks, reports E. C. Moran, Medora, N. D. With favorable weather and more rain than several years, the Bad Lands are ablaze with spring flowers, and the evergreens are looking fine in spite of the distressing season of 1937.

N. I. W. KRIEK, of the Cottage Gardens, Lansing, Mich., specializing in the newer peonies, shrubs and evergreens, reports that wholesale business has shown an increase over last year, and inquiries for peony roots for autumn delivery indicate renewed interest in that flower, particularly in the better cut flower varieties. The season in Michigan is well ahead of last year. While some cold weather occurred during the shipping season, there was little rain and consequently no delay in digging, which is away ahead of last year. Stocks in the field are in fine shape, and peonies are quite advanced over other years. While there has been some damage by frost, it might have been a good deal worse.

**CHINESE ELM
SEED****1938 Crop**

Washington-grown

\$2.75 per lb.

2.50 per lb. in 10-lb. lots

Midwest-grown

\$2.50 per lb.

2.25 per lb. in 10-lb. lots

F.o.b. Denver

Ask for price in large lots.

THE BARTELDES SEED CO.

Denver, Colorado

NORTH DAKOTA SEEDS

Juniperus scopulorum

(cleaned seed)

Also other tree seeds.

Flower seeds of beautiful Bad Lands perennials including golden-plumed Stanleya pinnata and a dwarf Forget-me-not, *Mertensia lanceolata*.

E. C. MORAN Medora, N. D.

SEED SPECIAL

White Delphinium Summer Cloud
A strong growing white that comes close to 100 per cent true from seed.

¼ oz., 50c; oz., \$2.50; ¼ lb., \$8.00

Special for present only.

Ask for complete seed catalogue.

MARTIN-PRATT SEED CO.

Box 189N Falmesville, Ohio

**GRAPEVINES,
PEACH and SHADE TREES,
BLACKBERRIES,
SHRUBS
WILLOWBEND NURSERY
PERRY, OHIO**

**CLARK GARDNER
NURSERIES**

Osage, Iowa

Originators of patented **SEMI-POT-
TED PLANT and BULB PACKAGE**
for over-counter trade. Has **WATER-
ING TUBE** and other unique features.

Perfection Markers Are Better

for Park Trees, Display Gardens, Field use or Greenhouse Pots or Benches. Proven by thousands of users and every one a booster! You'll like them, too. They will stand for years at one marking, or may be changed any number of times for various markings. Send for catalogue and prices of the complete **PERFECTION LINE**.

The S-W Supply Co., B. 33, Girard, Kas.

Nursery and Florist MOSS

Wire or burlap bales, large size. If you are interested, drop us a card. We shall be pleased to quote you our lowest possible price. Have been in the moss business since 1896. This should mean something to you. The oldest dealer in the state. Our reference—**Dun & Bradstreet, Inc.**

THE MOSS CO., Mather, Wis.

Friendship Gardens

*Nurserymen Supply Stock for Exhibit
Maintained as Memorial in Indiana*

The International Friendship Gardens, located one and one-half miles east of Michigan City, Ind., on U. S. highway No. 12, appeared in full bloom on their second annual opening May 7. A display of over 1,000,000 tulips exhibited by the Holland Bulb Growers' Association covers many acres of plantings both formal and naturalistic. Visitors who were among those witnessing the tulip exhibition last year found many real surprises in store for them. Many new gardens have been constructed since a year ago, requiring hundreds of evergreen trees, some as tall as eighteen and twenty feet, along with many truck loads of plant and nursery stock. Well established lawns help make this area of 100 acres one of the beauty spots of all America.

The International Friendship Gardens are a philanthropic enterprise founded to create a more friendly relationship between the peoples of the world. The charter membership consists of 300 distinguished persons from fifty nations, among whom are presidents, kings, dictators, statesmen, queens, sultans, artists, scientists, educators and many others, all of whom are important in the progress of world affairs. This exhibition is open yearly from tulip time until late autumn. Work continues, however, rapidly completing the plans in which are included gardens of the nations, horticultural gardens, scientific and experimental gardens, memorial gardens and botanical gardens, many of which are open to the public this year.

Unlike all other flower and garden exhibitions, this exhibition is permanent and out of doors where the gardens may be studied with the proper blooming periods, the proper placement of flowers in the border, backgrounds and hundreds of other things that confront the flower lover. It is located in the fertile valley of Trail creek, where a winding river and wooded hillsides all make for beauty, and where lovers of nature may spend many hours following trails through woods rich with native flora. Each bend of the river creates still another room or "episode," as they have been named, ranging from part of an acre up to many acres in size. It is in these beautiful places that

the exhibition gardens are nestled, each one in an appropriate location. Large stately elms and pines serve as landmarks in what was once Indian hunting grounds.

Since the garden is operated on a nonprofit basis, the directors select the exhibitors after thorough investigation. When once they have been qualified, they are given an invitation to participate and in due time are given a site for their exhibit without cost. After each display has been completed and has received the exhibitor's finished approval, the International Friendship Gardens staff then assumes the obligation of maintenance without further cost to the exhibitor. He is required to make replacements as may be necessary from time to time that his display may always be in exhibition condition.

All exhibits or materials given are identified by plaques which carry the name of the donor. Even drain tile and the drainage system are called to the visitors' attention by the proper placement of a neat plaque. Several hundred benefactors, contributors and exhibitors are already identified and others are being added continually. An entrant during the month was Elmer Gove, Burlington, Vt., one of America's outstanding gladiolus growers, who will have an individual planting of nearly 15,000 gladioli of his finest varieties. The Whitten-Ackerman Nurseries, Bridgman, Mich., will enter a French rose garden characteristic in every detail. The Flor-Acre Gardens, also of Bridgman, Mich., H. A. Valerius proprietor, will have a perennial garden with 157 distinct varieties of plant material, numbering about 1,200 plants in all. Elmer D. Smith & Co. will have one of the largest plantings of chrysanthemums ever planted purely for exhibition purposes. This consists of 5,000 plants. This stock will be supplied from their main establishment at Adrian, Mich.

While construction activities are being carried on at all times, it in no way interferes with the visiting public. Generally an episode is completed before it is opened to the public. A small charge of 25 cents is the visitor's contribution toward the maintenance and construction costs of this enterprise. Prepara-

tions have been made to accommodate hundreds of thousands of visitors this year.

CATALOGUES RECEIVED.

[In writing for a copy of any of the catalogues reviewed below, please mention that you saw it described in The American Nurseryman.]

Harmon Nursery, Prospect, O.—Printed list of four pages, dated May 1, of shrubs and perennials. There is some lining-out stock.

I. E. Ilgenfritz' Sons Co., Monroe, Mich.—Truly a picture book of nursery material is the 78-page catalogue, with innumerable photographs, some of the illustrations showing exquisite color work. Fruits, nuts, deciduous trees, evergreens, shrubs, including French hybrid lilacs; vines, and roses are listed. There are cultural directions and lists of material for special purposes. Prices are not quoted. There is an index, and of particular interest is the reproduction of the first Ilgenfritz bulletin, a single sheet printed in 1851, offering fruit trees. The first plantings were made in 1843 at Monroe, and the first sales in 1847.

Maple Road Gardens, Omaha, Neb.—A folder listing Sass varieties, exclusively, of lilies, the proprietor being Jacob Sass. The varieties are his own originations and those of his brother, H. P. Sass.

Herbst Bros., New York, N. Y.—The 16-page booklet is divided into two sections, the first offering tree and shrub seeds, the latter flower seeds, including carnations and Sakata's new morning-glories. Herbst's is agent for T. Sakata & Co. of Japan. Among new items are tree seeds from Mexico.

Longfield Iris Farm, Bluffton, Ind.—Sable and Dobrovols are the iris introductions for 1938, the latter being a Williamson (Longfield) variety. The distinctive illustrations are from contest photographs taken last year of Williamson varieties. Similar contests are announced for 1938 and 1939. There are extensive lists of lilies, and interesting is the grouping of varieties according to color in a special enumeration. In addition to various iris classes are offered day lilies and peonies.

H. Ernest Cowell, Inc., Milton, Del.—A folder devoted to boxwood, liberally and attractively illustrated.

Wayside Gardens Co., Mentor, O.—Multitudinous illustrations, all of them excellent and many of them in color, less than the sixty-four pages of the retail catalogue of bulbs from Holland. First are listed tulips of all classes; then come hyacinths, narcissi, garden lilies and miscellaneous bulbous subjects, among them alliums, amaryllises, callas, chionodoxas, cremurs, fritillarias, lilies and a variety of more uncommon genera. The last pages offer alpine and perennials, vines, shrubs and roses, also the Mentor barberry.

BOOKS

reviewed in this issue
and any others on
horticultural subjects
are obtainable through

THE AMERICAN NURSERYMAN

508 S. Dearborn St., Chicago, Ill.

Ask for circular of horticultural books.

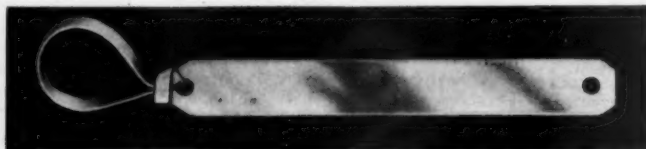
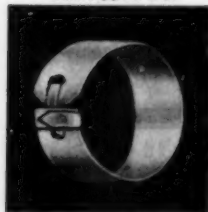
PERMA-LABELS (Trade Mark)

Permanent Metal Labels for Trees, Shrubs, Roots, etc., and 100 other uses.

Bury them, submerge them, expose them to weather or storm—your record is permanent, a whole life long.

Pat. Appl'd For

PERMA-LABELS cut your labeling costs in half.



There are five easy ways to attach to all caliper stock.

PERMA-LABELS are made from a pure metal that does not rust, corrode nor deteriorate. PERMA-LABELS can be written on with an ordinary pencil or stylus pencil for permanent record. Write for samples, quantity prices and literature.

PERMA TAG and LABEL CO.

Box 537

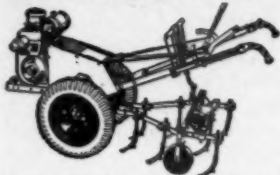
Creston Sta., Grand Rapids, Mich.

PERMA-LABELS

Trial box of 1000
Prepaid for only \$2.45

Operate a Planet Jr. Tractor this year

**FOR \$134 LESS THAN THE COST
OF KEEPING A HORSE**



Plows—Harrows—Plants—Cultivates—Fertilizes—
Mows—Dusts—at an astonishingly low operating cost

Handles belt jobs, too!

You can't beat a Planet Jr. Garden Tractor for economy—and you probably couldn't begin to equal it for time-saving and labor-saving service. It will work all day—every day—through dust and heat. Provides perfect balance, patented steering, convenient throttle control.

Planet Jr. is built for years of trouble-free service. All parts are light and sturdy. Specially constructed motor overcomes cultivation obstacles. Rigid welded frame insures proper alignment. With rubber tires or iron wheels. Write for Catalog.

S. L. ALLEN & CO., Inc.
429 Glenwood Ave. Philadelphia, Pa.

Planet Jr. GARDEN TRACTOR

**ATTENTION
NURSERYMEN!**

*Spray with, and
recommend*



**IMP.
SOAP
SPRAY**

**Use 1 part with 25 to 40
parts of water**

*Ask your nearest seedman, or
write for literature.*

**THE AMERICAN COLOR
AND CHEMICAL CO.**

176 Purchase St. Boston, Mass.

**LABELS
FOR
NURSERYMEN**

**THE
BENJAMIN CHASE
COMPANY
DERRY, N. H.**

STANDARD GARDEN TRACTORS

Powerful Gas Tractors for Small Farms,
Gardeners, Florists, Nurseries,
Fruit Growers, Postfarmers.
1 & 2 Cylinders
High Wheels, Rubber or
Steel Tires, Walk or Ride
Do Belt Work—Free Catalog
STANDARD ENGINE CO.
Minneapolis, Minn. Philadelphia, Pa. New York, N.Y.
4634 Como Ave. 2860 Market St. 303 Cedar St.

SOUTHWESTERN NOTES.

Students in the course in landscape gardening under Prof. L. R. Quinlan at the Kansas State Agricultural College went on a tour of nurseries and estates May 13 to 15. They will visit Lincoln and Omaha, Neb., and Council Bluffs, Ia., and will also take in the arboretum on the Morton estate at Nebraska City, where the idea of Arbor day was conceived.

The American Home for April, 1938, contains an article on garden clubs in April by Mrs. Frank Jones, who is the wife of Frank Jones, of the Mount Hope Nurseries, Lawrence, Kan. Mrs. Jones is president of the Kansas Associated Garden Clubs.

The Sutton Nurseries, Independence, Kan., have been awarded the contract for landscaping the post-office grounds at Independence. Newt Sutton reports that he is going to install an overhead irrigation system this coming summer, the water to be piped from a pond on his own place.

Stamey & Tidd, Hutchinson, Kan., have secured a contract for landscape planting on highway 81 in Sumner county, Kan. W. R. Yerkes is superintendent of the landscape department.

The Willis Nursery Co., Ottawa, Kan., recently completed the planting around the new \$100,000 Field school, in Ottawa, the most modern grade school building in the state.

STARK AS "PLANT WIZARD."

The Kansas City Star for Sunday, May 1, carried a feature article on Paul Stark, entitled "A New Plant Wizard, the Governor's Brother, Carries on Burbank's Work."

When Lloyd Stark was elected governor of Missouri, in 1936, Paul Stark became chairman of the board of the Stark Bros. Nurseries & Orchards Co., Louisiana, Mo., established in 1816 and now owned by cousins, nephews and the governor's sons as well as the brothers. Before that time Paul Stark devoted most of his time to seeking new varieties of orchard fruits, the most famous of which are the Delicious, Golden Delicious and Starking apples, and made a name for himself as an outstanding horticulturist, having been awarded honors for his work nearly every year since he graduated from Cornell in 1920. It was as president of the American Pomological Society that he exerted the influence that resulted in the enactment of the plant patent law.

Among the interesting fruits that the Starks have developed from Burbank beginnings are the "bird-proof" cherry, large and sweet, but unmolested by birds because of its golden-yellow color; the July Elberta peach, which ripens late in July instead of late in August; the elephant-heart plum, which has the combined flavor of a peach and an apricot; a gold and red nectarine, and a dwarf peach which is no larger than a geranium, but bears fruit of average size and flavor.

NORTH CAROLINA MEETING.

A nurserymen's short course will be held at North Carolina State College, at Raleigh, June 16 to 18, according to the announcement of C. H. Brannon, state entomologist, who is secretary of the North Carolina Nurserymen's Association.

Make More Profit

Sell Your Roses, Perennials, Shrubs, Vines and
Fruit Trees Started and Growing in

CLOVERSET PLANT POTS



Patent No. 2073898

Nursery Stock grown in Cloverset Patented Pots can be sold and planted without wilt to bud or bloom any time during the hot summer months. Hardy Chrysanthemums grown in Cloverset Pots will make money for you next fall. Write today for Free Illustrated circulars and testimonials from users of these pots.

Carton of samples by mail 25c.

Cloverset Flower Farm

ERNEST HAYSLER and SON

105th Street and Broadway, Kansas City, Mo.

HILL'S BOOK OF EVERGREENS

New!



See this beautifully-illustrated new book, answering every question about Evergreens. Produced by America's leading

Evergreen Nursery with a background of 80 years' experience with Evergreens. A cloth bound book, 7x9 1/2", containing 320 pages. There are 50 chapters, including complete information on uses, descriptions, propagation, historical and cultural information pertaining to Evergreens. 360 illustrations, 45 in full color. Price \$1.50, postpaid, anywhere in the United States. Send with full privilege of approval.

D. HILL NURSERY COMPANY
Box 305 DUNDEE, ILLINOIS

Evergreen Specialists America's Largest Growers

**KILL WEEDS
WITH FIRE!**

Burn weeds; now and destroy SEEDS as well as weeds. AEROIL BURNER is quickest, safest, most economical way. Disinfects poultry and live stock quarters. 69 other uses.

AEROIL BURNER

Send for 48-page Book solving 80 Farm Problems (Used & Endorsed by 100 Agr. Exp. Sta.)

10 DAY FREE TRIAL

2017 G. Mch. Chicago, Ill.

TRY THIS WEED BURNER AT OUR EXPENSE

TRY GOODRICH RUBBER *Budding Strips*



AT *Our* EXPENSE

Nurserymen everywhere are praising the Goodrich Rubber Budding Strip, for this modern aid to growers speeds tying operations, provides maximum protection, hastens knitting, and permits formation of a better stand. This strip is scientifically designed for:

- 1 **FASTER APPLICATION**—No preparation required. Put in position easily and quickly.
- 2 **EVEN PRESSURE**—Uniform over the entire bound area, with sufficient flexibility to expand with growth of bud.
- 3 **GREATER PROTECTION**—Eliminates danger of cutting, permits bud to knit faster, assures better stand.
- 4 **SELF-RELEASING**—Made purposely to deteriorate in from two to three weeks, automatically loosening on the stand.

If you have not become acquainted with this efficient, up-to-date method, ask for **FREE SAMPLES** and prices. Try Goodrich Rubber Budding Strips at our expense. Once you try them, you will become a regular user! Write today to

THE B. F. GOODRICH CO.
AKRON, OHIO

INDEX TO ADVERTISERS

Aeroil Burner Co.	25	Martin-Pratt Seed Co.	23
Allen & Co., S. L.	25	Mathews Eggert Nursery	17
American Color & Chem. Co.	25	McGill & Son, A.	21
American Florist Supply Co.	28	Meehan Co., Thomas B.	27
Andrews Nursery	23	Milton Nursery Co.	21
Ariens Co.	28	Moran, E. C.	23
Barteldes Seed Co.	23	Moss Co.	23
Bay State Nurseries, Inc.	14	Mount Arbor Nurseries	19
Bobbink & Atkins	15	National Bundle Tyer Co.	27
Burr & Co., C. R.	17-21	Oberlin Peony Gardens	22
Canterbury	17	Offenberg Nursery Co., Paul	17
Carpenter & Co., Geo. B.	28	Orenco Nursery Co.	21
Chase Co., Benjamin	25	Pacific Coast Nursery	21
Cloverset Flower Farm	25	Perma Tag & Label Co.	24
Conigisky, B. F.	27	Peterson & Dering, Inc.	21
Cottage Gardens	23	Portland Wholesale Nursery Co.	21
Crystal Soap & Chem. Co.	27	Princeton Nurseries	17
Dixie Rose Nursery	21	Process Color Printing Co.	27
Eden Nurseries	19	Quality Nurseries	17
Elmgrove Nursery	22	Rambo's Wholesale Nurseries, L. J.	23
Evergreen Nursery Co.	21	Richard, Jr., Frank M.	19
Felins Tying Machine Co.	28	Robinson, E. D.	20
Forest Nursery Co.	16	Rust Mfg. Co., John	27
Foster Nursery Co.	23	Scarff's Nurseries	23
Garden Shop, Inc.	27	Scotch Grove Nursery	19
Gardner Nurseries, Clark	23	Shenandoah Nurseries	18
Goodrich Co., B. F.	26	Sherman Nursery Co.	19
Hansen Nursery, Carl A.	23	Skinner & Co., C. W.	27
Harmon Nursery	19-20	Standard Engine Co.	25
Heinze & Co., P.	22	Storrs & Harrison Co.	15
Herbst Bros.	23	S-W Supply Co.	23
Hess' Nurseries	17	Tobacco By-Products & Chem. Corp.	27
Hill Nursery Co., D.	19-25	Verhalen Nursery Co.	21
Hobbs & Sons, C. M.	19	Visser's Nurseries	17
Hogansville Nurseries	23	Waynesboro Nurseries, Inc.	17
Howard-Hickory Co.	22	Weathered Oak Herb Farm	21
Howard Rose Co.	21	Westminster Nurseries	19
Industrial Tape Corp.	28	Willis Nursery Co.	19
Jackson & Perkins Co.	17	Willowbend Nursery	23
Jewell Nursery Co.	19	Wilson & Co., Inc., C. E.	17
Kapp's Duluth Nursery	22	Wonderland	22
Leonard & Sons, A. M.	28		
Lovett, Lester C.	17		

In Big Nurseries, and in Small —

RIDGEFIELD, CONN.

I have just read the article, "Moving Trees the Year Round," written by Mr. M. G. Copen of the Rock Creek Nurseries, which you published in your current issue.

Mr. Copen's article is the most practical and sensible that I have ever read on tree moving, and I believe it should be reprinted in not only all of the trade magazines, but in all publications read by people who have any interest in tree moving or having trees moved. We shall certainly see that all the department heads, foremen, and salesmen in our organization read it carefully, and will be very glad to file it for future reference.

OUTPOST NURSERIES, INC.
Maurice L. Condon, General Manager.

ARLINGTON, TEX.

My subscription is due, and I am enclosing a check for three years.

The many splendid articles you give us in each issue are worth many times the cost of the magazine, and each issue is read thoroughly by everyone connected with our little business. We all agree that it is the best strictly nursery journal we have ever found.

BENGE'S NURSERY,
A. C. Bengé.

Everyone reads the American Nurseryman



Patent Applied for.

NURSERYMAN'S HAND TRUCK

Designed for handling heavy material in the nursery, sales yard, on the planting job, and for loading cars and trucks—saves time and labor.

Price: f. o. b. Kansas City **\$27.50**

THE GARDEN SHOP, INC.

Manufacturers of Labor Saving Devices for Nurserymen

4819 Mission Rd., Kansas City, Kan.

Protect Your Stock
Against Future Drought with
**SKINNER OVERHEAD
IRRIGATION**

40 years' experience—your guarantee of satisfaction
Overhead irrigation supplies now at greatly reduced prices

Write for free literature

C. W. SKINNER & CO.
Newfield — New Jersey

**Automatic Irrigation
and Supplies**

Kalamazoo Oscillator, full automatic that runs itself, is the simple, dependable, carefree oscillator the nurserymen desire. A powerful machine to give maximum service. Finger-touch controls.

Write for literature and prices.

John Rust Mfg. Co.

628 W. Patterson St., Kalamazoo, Mich.

PLATE BOOKS

Send for big plate book offer

B. F. CONIGISKY

211 Hamilton St. Peoria, Ill.

TYING MACHINE

"SAXMAYER" ELECTRIC—NEW MODEL
for SHRUBS — PLANTS — VEGETABLES

Small Bench Model — Fully Automatic
Uses Twine or Braid — Very Speedy — Trouble-proof
Fully Guaranteed

WRITE FOR INFORMATION

Also Models with and without Power for Varied Purposes

NATIONAL BUNDLE TYER CO.

BLISSFIELD, MICH., U. S. A.

C. P. O.

The **SPREADER**

That **KILLS**

Better than most summer oils, and safer. Makes nicotine more effective. Use for Juniper Scale, Oyster Shell Scale, Lace Bug, Red Spider and most forms of scale and sucking insects. C. P. O. is odorless and does not discolor evergreens. For samples and literature, write!

**Crystal
Soap & Chemical Co., Inc.**

DEPARTMENT A. N.

6300 State Road, Philadelphia, Pa.

"RED STAR" RAFFIA

Prices per lb.	Prices per lb.
1 lb. 20c	100 lbs. 18c
10 lbs. 16c	1 bale (225 lbs.) 11c
25 lbs. 15c	3 bales 10½c
50 lbs. 14c	5 bales 10¼c

Special prices on larger quantities

Dyed Raffia in fifteen good colors
Genuine Reed in all sizes
Send for latest price list

THOMAS B. MEEHAN CO.

Direct Importers of Raffia
DRESHER, PA.

**WIN YOUR CUSTOMERS
GOOD WILL..**



**"BLACK LEAF 40"
SURE KEEPS DOGS
AWAY!**

**TELL THEM
HOW TO
DETOUR DOGS AROUND
EVERGREENS & SHRUBBERY**

● You can do your customers a real service by recommending "Black Leaf 40". A little "Black Leaf 40" sprayed on the lower branches of shrubbery and evergreens will keep dogs away, preventing stains and discoloration.

"Black Leaf 40" on bushes or evergreens is harmless to dogs—they just don't like the odor and go elsewhere. It is both an easy and an economical way of protecting shrubbery from the "dog menace". Your customers will also find many other uses for "Black Leaf 40"—the "versatile" insecticide.

"Black Leaf 40"
DETOURS DOGS
AWAY FROM SHRUBBERY

TOBACCO BY-PRODUCTS
& CHEMICAL CORP.
INCORPORATED
Louisville, Ky. ©1936

SPECIAL OFFER

Sample Copy Plate Book, 50c

Prints, Maps and Folios

Process Color Printing Co.

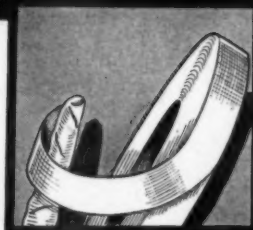
701 Searle Bldg., Rochester, N. Y.

PROTECTION AND PROFITS ASSURED

WITH NURSERYMAN'S TAPE

Only a tested and tried germ-killing safeguard is good enough to assure ample protection against all parasitic infection. Harmless to plant tissue. An air-tight germicidal wrapping will reduce knots and malformations among piece-root grafts. No danger of girdling. Improvements in stand range from 65% to 75%.

Nurseryman's Tape increases production which means greater profit for you.



Send for samples and prices.

INDUSTRIAL TAPE CORPORATION

NEW BRUNSWICK, N. J.

...Everything... for the NURSERY

Tools and Labels

IMPLEMENTS

Spraying Equipment

TUBS—Chinese

Insecticides

FERTILIZERS

GENERAL SUPPLIES

Send for our Free Catalogue

**AMERICAN FLORIST
SUPPLY CO.**

1335 W. Randolph St. Chicago, Ill.

FREE DATA Profit by knowing

What sort of twine should you use—Jute, Cotton, Sisal, Java? All depends on type of job. It's money in your pocket to know. Bring in, or mail, sample of what you are using and we'll explain. Also quote you LOWEST prices.

FREE

Eight page booklet with 79 cuts entitled: "KNOTS THE SAILORS USE." Shows how to tie almost any useful knot. Worth having. Write

GEO. B. CARPENTER & CO

FELINS Dual Ball and Roller Bearing BUNCH TYER

TIE cut flowers—rosebushes—shrubs—perennials, for store and individual trade or retail mail orders—small fruits—counted seedlings—young plants.

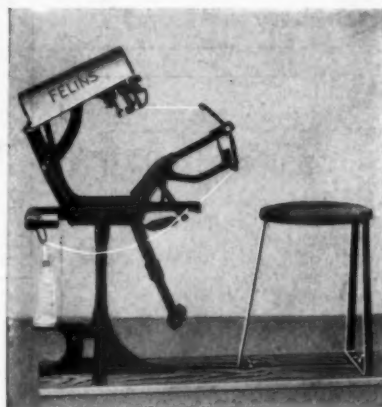
Save Time-Labor-Money

GET this sturdy foot-operated or electric tying machine. Both hands free to form and handle bunches. Operate standing or seated, in field or shed.

Use 6 to 16-ply cotton twine or tape 1/4 inch wide, without change of knotter.

FELINS

2950 N. 14th St.
Milwaukee, Wis.



Dual Ball and Roller Bearing

NURSERY TOOLS

Nursery Spades, Kunde Knives and Pruning Shears, Budding and Grafting Supplies. Free 88-page Catalogue.

A. M. LEONARD & SON
Piqua - Ohio

ARIENS-Tiller

The American
TILLAGE COMBINE

3 MODELS TO FIT
EVERY NEED

ARIENS CO.

Box 710 Brillion, Wis.

